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EMOTIONS AND REASON

Publication Number 215

AMERICAN LECTURE SERIES®

A Monograph in

AMERICAN LECTURES IN PHILOSOPHY

Edited by

MARVIN FARBER, PH.D.

Department of Philosophy
University of Buffalo
Buffalo, New York

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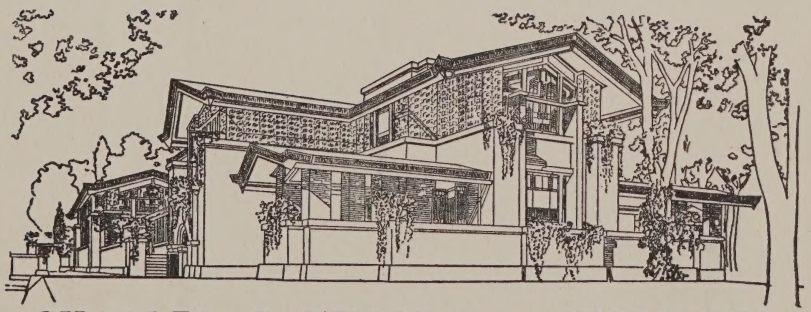
THEOLOGICAL SEMINARY

EMOTIONS and REASON

By

V. J. McGILL

Associate Professor of Psychology and Philosophy
Hunter College
New York City



CHARLES C THOMAS · PUBLISHER
Springfield · Illinois · U.S.A.

CHARLES C THOMAS • PUBLISHER
BANNERSTONE HOUSE
301-327 East Lawrence Avenue, Springfield, Illinois, U.S.A.

Published simultaneously in the British Commonwealth of Nations by
BLACKWELL SCIENTIFIC PUBLICATIONS, LTD., OXFORD, ENGLAND

Printed simultaneously in Canada by
THE RYERSON PRESS, TORONTO

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Library of Congress Catalog Card Number: 54-6570

Printed in the United States of America

TO MY DAUGHTER

MARIBEL

PREFACE

THE PREVAILING OPINION seems to be that these two sides of human nature—emotion and reason—are alien to each other, or diametrically opposed. When a man thinks clearly, and behaves in a deliberate and rational fashion, it is assumed that emotion is absent, suppressed or under control. When he "loses his head" or acts stupidly, his conduct is described as emotional, and reason is supposed to be absent or distraught by feeling. It is as if there were two contrary forces within the individual contending for control over his thoughts and actions—"two souls within one breast," as Goethe's *Faust* (of Part 1) put it. When the individual manages his affairs astutely or sensibly, according to the standards of his society or set, or according to some other approved standard, reason is said to prevail, whereas if he fails to conform he is simply not using his head and is acting emotionally.

In line with this bifurcation of the human being is the representation of human conflict as a clash between pure intelligence and blind or wilful emotion. If one's child, wife, colleague or boss were only reasonable, but alas he is prey to arbitrary passions and cannot listen to the clear voice of reason. One can therefore punish or outwit him, or feel sorry for oneself, but logical argument is useless. From this dualistic point of view, conflicts between groups and nations also become more grisly and uncompromising, for there is no hope of a rational settlement. The other side is seen as driven by dark fears and ambitions which can not

be understood nor negotiated, while one's own side, by contrast, becomes the embodiment of logic and enlightenment.

It was Plato in the *Phaedrus*, who first gave expression to this dualism of emotion and reason. Reason is depicted as a noble steed "straight and well-knit, with high neck and arched nose, in color white, with black eyes, a lover of honor in all temperance and modesty, a friend of true glory, . . ." whereas desire, or emotion, is a horse of a different color—"crooked, lumpish, ill-jointed, with a stiff neck, a short throat, a stub nose, in color black, with gray eyes, sanguineous, a friend of lust and boastfulness, ..." Whereas the noble white horse follows the path of truth, goodness and beauty of its own bent, the bad black horse of desire is perverse and impetuous, striving might and main to drag the white horse and the charioteer down some dark road where destruction is certain, and must be continually chastised and corrected.

Those who divorce emotion and reason have sometimes forgotten that this is only a myth, and that Plato himself, as in *Philebus*, presents quite a different picture. There, emotion is the complement of reason and falls into error only when true knowledge fails. Aristotle also saw that emotion and reason are not opposites but integral parts of one process and inseparably associated in the good life, or happiness. Emotions are to be restrained in some cases, but strengthened and cultivated in others. Spinoza showed, even more clearly, that emotions involve reason and reason, emotions; and that the narrowness and stupidity of the passions is also a privation and confusion of knowledge. The evil of the passions is to be cured only by summoning other emotions which are contrary to them.

Modern psychology has long since abandoned the notion of faculties. There is literally no such thing as emotion and reason as special faculties or forces which might ac-

count for this or that performance. The only question is whether there are two contrasting and opposite processes in human beings, one emotional, the other rational. Are there processes exemplifying fear, rage, curiosity and the like, which do not also exemplify cognition and expectation? And are there, conversely, processes of learning, inferring and expecting which are isolated and pure, involving no emotion of any kind? Is an emotional process to be regarded as necessarily obstructive of clear thinking and good adjustment, as something, therefore, to be controlled, suppressed or eliminated? Curiously enough, many of the best psychologists and philosophers tend to give affirmative answers to these questions. One says "tend" because the position is very difficult to maintain consistently and thoroughly. Thus, obviously obstructive emotions, such as suffocating rage and paralyzing fear, are usually emphasized, whereas obviously wholesome and facilitating emotions, such as mother love and scientific curiosity, are mentioned, if at all, only parenthetically.

It is the contention of this book that it is as difficult to separate emotions and knowing, as it would be to separate motivation and learning—to study one apart from the other, and that, indeed, it comes to much the same thing. Any particular bit of thinking requires specific motivation, and an attitude of acceptance, rejection or suspense, and any concrete emotion embraces an intentional object of a sort to which the individual has learned to respond. To conceive of emotion apart from learning, we shall argue, has the effect of reducing widely different emotions to the same emotion. A man who is afraid that war will break out would have the same emotion as the man who is afraid of ghosts. An unavoidable difference among fears is the difference in what is feared, i.e., known or expected to be dangerous, and this generally shows up clearly in contrasting behavior.

Emotions and reason, then, are not two conflicting agencies which divide the individual and turn him, and his society, into a battleground. When emotion appears to be all on one side of a dispute, and nothing but reason on the other, is it not always found that this is too simple to be true? "The heart has its reasons," as Pascal said, just as the intellect, as William James added, has its warm convictions and purposes. Even when a wise father sits down to quiet the temper tantrum of his child, it turns out that the tantrum itself has a certain rationale which must be understood if anything worthwhile is to be accomplished. The father, like the child, is swayed by emotions, and he too has a great deal to learn about his own motives.

The learning process in which abilities are acquired and improved is the same process in which emotional attitudes are formed and corrected, and the same principles seem to be operative, in one case as in the other. The emotional aspect of human nature, by itself, thus furnishes no grounds for the current misanthropy and cynicism with regard to human projects. The contention of this book is that emotion is a continuing aspect of life, of its finest developments as well as its lowest depths, and that, therefore, any grounds for pessimism must lie elsewhere. The only excuse for devoting a book to the subject is that so many people, among them some of the best authorities, take an opposite view.

We shall see that the biocentric view has a dominating influence in psychology and related fields. According to this view all motivation is basically biological. Even art and science, and all the refinements of civilized life, are but instruments for the securing of physiological satisfactions. Man is a complex, a magnificent animal, but only an animal, striving at bottom only for what the animal strives. We shall also discuss the disorganization theory according to which emotion is always "an acute disruption," putting an abrupt end to clear thinking and adaptive behavior, so that,

the implication is clear, we should be better off without any emotions at all. Both of these very influential theories will be criticized and alternative views will be suggested.

In recent years leading philosophers have joined psychologists in maintaining that emotional attitudes typically arise and change without any reason, good or bad, and that they can be manipulated and reversed even when no new facts or reasons are presented. The psychologists are concerned with experiments on "prestige suggestion," shifts of attitude and propaganda analysis, but their results are often assumed to be valid for the whole field of social psychology. Some philosophers also find that blind bias is a settled feature of the human condition, but their main aim is to clearly demarcate the language of the sciences from the "unverifiable" language of the attitudes. Their conclusion is that, since ethics involves attitudes, ethical statements can not be true or false, and a scientific ethics is impossible. In the area of policy-making, rational methods can not be trusted. These theories seem somewhat ominous. Fortunately the facts on which they rest admit of other, more plausible, explanations.

It will be seen that there are other psychologists and philosophers who take quite a different view of attitudes and of ethics, and that a scientific ethics is not only a possibility, but is being increasingly realized in practice. In brief discussion the attempt will be made to locate the main problems of ethics, and to indicate the kind of organizations and policies from which one might expect partial, stepwise solutions. Short sections will then discuss the rationale of three emotional virtues—sympathy, love and loyalty, and a concluding section will propose a way of analyzing the aesthetic emotion.

In a brief book discussing numerous topics, many supporting lines of argument have to be abandoned, and developments and illustrations must be severely curtailed.

It is also possible that when the tempo is rapid, full justice is not done to opposing points of view, that their plausibility and resources are not sufficiently indicated. It is to be hoped, however, that a short book has also certain advantages, that the rapid coverage may give the reader a bird's eye view of the subject, enable him to see the main argument through to the finish and to envisage it as a whole.

The extent of the author's indebtedness to psychologists and philosophers should be clear, in most cases, from the references in the text. In certain cases, however, it may not be apparent. The author has learned a great deal from his former teachers, Edmund Husserl, G. E. Moore and Ralph Barton Perry, though their views are seldom referred to, and would like to express the fullest gratitude for their ideas and inspiration. He has likewise incurred a debt to psychologists, such as E. C. Tolman and D. O. Hebb, far more than can ever be repaid. Thanks are also due to Professors W. T. Parry, Houston Peterson and Livingston Welch for reading the manuscript and offering helpful suggestions.

J. V. McGill

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EMOTIONS AND REASON

I

NEEDS

1. MOTIVATION

The two main determinants of human behavior are motivation and ability, and there is a growing conviction that the two cannot be profitably separated. In studying intelligence or learning, motivation must be carefully considered, and in studying the strength of drives and motives the native capacities of the organism and its acquired habits and abilities must always be kept in mind. There is probably no learning without some motivation or other. Interests result in the learning of abilities, and the abilities once learned become motives to their continued exercise.

Motivation may be defined as that part of the cause of behavior which is internal to the organism, or spontaneous. Thus basic tissue needs, drives, desires, impulses, emotions and the like, are all motives. In fact the number and variety of human motives is so enormous, most of them having no names in the language, that some system of classification is a practical necessity. Usually a distinction is made between a few motives which are called *basic*, and all the rest, which are described as *instrumental*. Thus the current biocentric view reduces human motivation to basic tissue needs, such as hunger, thirst and temperature-maintenance, other motives being merely instrumental to the requitement of these basic needs. And for the Freudians all the complicated motives of civilized man are conscious or unconscious servants of the Id and ego-instincts. Such views effect a pleasing simplicity, but the cost, as we will see, is high.

At the beginning of the century the basic motives were called instincts, and psychologists vied with one another

in composing lists of instincts which were often original and instructive, though no agreement was reached. With the development of learning theory it became increasingly obvious that there are no inherited patterns of behavior which could be called flight, curiosity, pugnacity, self assertion and the like. Such supposed instincts turned out to be the product of learning, and no psychologist today would accept human instinct as an innate pattern of behavior, but only as an innate capacity for such behavior.

Even in animal psychology the advance of learning theory led to a revision of the concept of instinct. Psychologists and biologists are now more careful to introduce observational and manipulative controls, and to pronounce the early behavior of animals instinctive only when the possibility of learning has been eliminated. One method used was to follow the return course of birds, released hundreds of miles from their home, by airplane, to see whether they made use of geographical cues. There are also many experiments in which the attempt is made to elicit specific behavior in very young animals, by artificial stimulation, before it occurs naturally, and hence before it could have been learned (1). The reaction of adult animals to novel objects is also studied. Hebb (2), for example, argues that the unmistakable fear reaction of chimpanzees to the bust of a chimpanzee, which is suddenly placed in their cage, proves, if not instinct, something like it. At least, the animals exhibited fear automatically on the first presentation of the object, without any prior experience. It is not clear from Hebb's account, however, whether the possibility of learning was excluded in this case. Could not the chimpanzees have learned to fear a newcomer to the cage, who is half-hidden, looks strange and doesn't move?

How difficult it is to eliminate the possibility of learning is illustrated by studies under way at the American Mu-

seum, New York City, on nest building and maternal behavior in the rat. When the animals were reared without access to manipulable objects, according to Riess (3), they failed to build nests when pregnant, or later. When a female rat is reared with a cuff around its neck which prevents it from licking, smelling, etc. its own body, normal nursing behavior does not occur. Such studies, of which we have selected a few examples, have an important implication for human behavior. If it is so hard to explain vital behavior of animals except in terms of learning, how much more difficult it should be to assume fixed and unalterable patterns in human beings. We have no evidence as to how human infants would develop if cut off from human society except for a few so-called "wolf children" who were reared among animals. Although the facts are not well attested, what evidence there is points to the extreme plasticity of human personality and capacities (4).

2. BASIC TISSUE NEEDS AND LEARNED NEEDS

The instinct theory made its contribution by insistence on the biological base of motivation, but was unable to sustain its claim that there are complex, innate patterns of response in human beings. In its place came the theory of needs, or drives, which retained the biological base but eliminated the innate response-pattern. Both the biological emphasis, which derived from the evolutionary upheaval in the nineteenth century, and the later insistence on the plasticity and docility of human beings, were of great philosophical importance and shaped the climate of opinion in many fields of research and practice.

The language of needs is widespread. Experimental psychologists, clinicians, dieticians and medical men, biologists, sociologists, economists, anthropologists, educators, governmental agencies and social workers, from their different points of view, have all used the term "needs" to

describe either motivation, or what experts think motivation should be. Thus when dieticians and medical experts determine human needs, what is meant is that if people actively desired certain goods, and they were available, the level of health and happiness would be improved. But needs can also refer to what people actually want, as when economists speak of "effective demand," or, in a broad sense, to any preferential behavior. What people actually want, however this may be determined, and what they *should* want, are vastly different. The drug addict says that he needs opium but the doctor says that what he really needs is to be cured of the habit. Often the process of determining what needs are is also a process of changing them, as in psychotherapy, so that the fusion of "is" and "ought" is frequent.

The problem posed in psychology is whether "needs" are to be defined psychologically or biologically. As an example of psychological definition we may take that of H. A. Murray (5): A need is an assumed force in the brain region, "a force which organizes perception, apperception, intellection, conation and action in such a way as to transform in a certain direction an existing unsatisfactory situation." Perhaps this definition is a little too negative, for it is not obvious that men are activated only by unpleasant situations. We might better define a need as a state of the brain and of the organism which, upon appropriate stimulation, either external or internal to the organism, leads to preferential behavior, which also may be either external or internal. Thus if a man has a need for a certain food, music or friend, he tends to approach the object in question rather than others, to show satisfaction when he obtains it and dissatisfaction when he fails to obtain it. And if all approach to the object is barred, or if there is a conflict of needs, the existence of a given need may be ascertained nevertheless in many indirect ways. Physical measurements, such as the

psychogalvanic response, are always available, and in extreme cases, a lengthy course of psychoanalysis.

Contrasting to this conception of need is the biological definition offered by C. L. Hull (6): "When any of the commodities or conditions necessary for individual or species survival are lacking," he says, "or when they deviate materially from the optimum, a state of primary need is said to exist." It will be apparent that this definition is much narrower than those offered above. Only the tissue needs, such as hunger, thirst, sex and the like, are admitted as instigators of action, and thus most human motives are not included. Since, according to Hull, learning takes place when, and only when, there is a reduction of need, there would appear to be a great deal of human learning that his theory cannot account for. Even in the case of rats learning can take place, as will be described later, without any reduction of "need" in Hull's sense, for there is such a thing as incidental learning and rats learn faster when rewarded with preferred foods which have no more, or even less, nutritive value than other foods. Hebb (7) has pointed out other difficulties in Hull's definition.

Everyone, of course, admits the distinction between tissue needs and learned needs, and psychologists differ only as to how they are related. Among the tissue needs are hunger, thirst, sex, rest, elimination, oxygen-balance, temperature-maintenance, sensory-motor activity and avoidance of injury. *These* needs, which Hull had in mind, are necessary (or instrumental) to survival. If they are lacking or not satisfied the animal suffers injury or death, or fails to propagate its kind. All of this will seem obvious except the case of sensory activity. Is sensory activity and discrimination a tissue need? It is obvious enough that the brain requires some sensory stimulation, but there is also evidence that lack of stimulation of even one receptor, such as the eyes, can have deleterious effects. The case of vision and

hearing is of special interest because they are regarded as the aesthetic senses. We know the harmful effects of confinement in a dark cell, or even in a room with plain walls unbroken by any pattern for the eye to follow. It would seem, in the light of many facts, that there is actually a *tissue* need for aesthetic activity, that what was supposed to be a luxury is a necessity.

Innate needs and learned needs are important to distinguish carefully because the latter can be altered by education, social regulations and technology, whereas the former have to be accepted for what they are. Failure to make the distinction has resulted in vicious medical prescriptions and the cruel superstitions. On the one hand, learned needs that are actually injurious are prescribed for life and health; on the other hand, cultural needs, because they are not always recognized as learned, are thought to be beyond the capacity of most men. Another result of this confusion of needs is the frequent phenomenon of undernourishment and starvation in the midst of ample food resources. Because a given diet is identified with vital needs other available diets are not explored.

Innate and learned needs are interfused. The innate tissue needs, which are more or less invariant in the human species, become highly socialized and acculturated, with the result that the widest diversity of eating and love-making patterns are to be found from one society to another. The endless variety is presumably a product of learning, yet the need for society of some sort may well be innate. The social behaviorist, George Herbert Mead, maintained that society cannot be explained as the work of a pre-existing self because it is society, not the self, which pre-exists. Wherever there are selves there is communication, i.e., socialized behavior. There is already a society. For John Dewey, similarly, psychology is social psychology.

The fact that there are no men, apart from exceptional

stragglers and outcasts, who live outside of societies is significant; also, the elaborate social life of the higher animals, especially the chimpanzee. The social need in man is primordial, imperious, inalienable. Robinson Crusoe, before the coming of Friday, was intensely aware of society, and guided his behavior accordingly. Loneliness itself is a highly social experience, and a man working alone, as distraction studies show, may be more distracted by thoughts of missing companions than he would be by their bodily presence. This is why the numerous psychological experiments which compare the performance of subjects working in empty rooms with that of subjects working in a group, cannot hope to distinguish non-social from social behavior. When this is their purpose they miscarry completely. Human behavior is always social.

Learned needs differ from the innate tissue needs in a number of respects: They vary greatly from one individual or society to another, as we have noted, whereas there is no evidence that the innate needs do. They are psychological, whereas the tissue needs are physiological. What this means is that learned needs imply a response of the whole organism to the environment, whereas tissue needs are part-processes within the organism, known or assumed. Thus, R. B. Perry employed the terms molar and molecular to distinguish the psychological from the physiological problem.

Learned needs are also said to emerge and persist only when they are rewarded, whereas tissue needs, such as thirst and hunger, persist and even increase in strength, when *not* rewarded. This generalization is important but requires two qualifications: Raw hunger persists without reward or reinforcement but, like other tissue needs, may be transformed by the social pattern in which it occurs. Thus we have plenty of anorexia cases, hunger strikers, pillar saints, people who reduce for beauty's sake or observe taboos, and children who refuse food in order to control their

parents. The physiological need is thus enclosed within wider patterns of psychological motivation, and redirected. Even when working with the hunger drive in animals the overlay of learned patterns must be considered, for there are psychological food-preferences, and "neurotic" animals, though deprived of food for many hours, often refuse to eat.

Learned needs, as it is said, arise and persist only when they are rewarded or reinforced, but the reward, as we will argue, may be intrinsic to the specific need and its satisfactions. Games, sports, novels and music are typically their own reward, and people pursue them regardless of physiological needs and sometimes at their expense. The strength of learned needs can be measured by their "resistance to extinction," i.e., the amount of reward or punishment necessary for their elimination, and on this criterion some learned needs become independent and incomparably strong. Psychologists fail to recognize this obvious fact only when they generalize from certain limited experiments. It is true that a rat's need to run a given maze is eliminated if it repeatedly winds up at the feed-box and finds no food, but to generalize from such cases to all learned needs is certainly unwarranted.

Learned needs are also distinguished by the fact that they are cognitive and purposive. They refer to goal-objects or conditions, as of a certain kind, and as desirable or repugnant; and they involve expectations that certain routes will lead to or away from them. A boy's need for jam, when he comes home from school, is a need for succulent stuff in a certain jar on the top shelf, to be reached by climbing on a chair, perhaps when no one is looking. He has associated the jam with a certain jar, and later on spied the jar on the top-shelf. It seems pretty clear that he has learned the need for jam after school by a process of association, or conditioning, though the process is doubtless

far more complicated than would appear from conditioning experiments where a heroic effort is made—has to be made— to isolate the phenomenon.

The cognitive and purposive nature of learned needs results from the fact that they are learned. What is learned is that certain things, like the jam-jar, are signs to the effect that certain consummations or escapes can be achieved by certain locomotions and manipulations. The consummation, however, does not have to be the satisfaction of a tissue need, but perhaps only of a passing curiosity, and the escape does not have to be escape from bodily injury, but perhaps only from a momentary flicker of doubt.

The alternative to this view is a dualism of needs and learning: On the one side, the tissue needs, such as hunger; on the other, the learning of habits which enable us to satisfy them. We will argue that this position is inadequate. For one thing, the need for specific things to be reached by specific means is not a tissue need. Give the boy who wants jam-after-school-by-climbing-to-the-top-shelf-when-no-one-is-looking food of equal nutritive value served on the table, and he may refuse it. Learned needs and knowledge cannot be separated.

Philosophers have long recognized the cognitive structure of desire. Franz Brentano made "intentionality," or descriptive reference to objects, the essential character of the psychic, and to cover needs specifically he distinguished a particular kind of intentionality, loving and hating. Remote from the introspectionism of Brentano, and from the whole tradition of phenomenology, is the work of the purposive behaviorist, E. C. Tolman. Brentano's method was introspection and logical analysis, whereas Tolman tried to get at the foundations of learning by interpreting the maze-runs of rats. Yet both men concluded, using different language, that intentionality or expectancy is the defining trait of psychological phenomena. Tolman's theory

has clear advantages, for he emphasized the means-end feature of striving and set up numerous experiments to test his hypothesis. That he has demonstrated that specific means—end expectancies and a "cognitive map" of the maze situation must be assumed in the rat to account for its successful learning, is still a matter of debate in current psychological literature. The issue is important despite the insignificance of white rats. It is interesting to note that if Tolman's purposive behaviorism is valid for rats, it will hold *a fortiori* for human beings, whereas if Hull's mechanistic behaviorism is valid for rats, the same does not follow. Tolman's evidence for expectancy will be discussed later on.

3. THE BIOCENTRIC VIEW VS. FUNCTIONAL AUTONOMY

There are a number of good discussions of the interrelations of needs (or drives). The best and most elaborate one is to be found in H. A. Murray's *Explorations in Personality*. It will be sufficient for our purposes to merely list a few forms of interrelation: First we have the *fusion* of needs. The same activity may serve several needs simultaneously, as when a woman goes to the opera to hear it, but also to please her husband, to see her friends and to show off her new dress. And there may be a great number of momentary needs which are satisfied during the evening. In addition, the bustle and stir of getting to and from the theatre, and the bodily rest and sensory activity while there, administer in a general way to tissue needs. It is thus recommended that both diversions and work be chosen with an eye to physiological as well as psychological needs. The ideal of education, and of life, which for John Dewey comes to much the same thing, is that activities administer simultaneously to as many needs as possible, and also to the development of new needs.

The *conflict* of two needs occurs when both cannot be requited, and the severity depends on the intensity and persistence of the needs. Sometimes needs are incompatible in the sense that the activity which would satisfy one prevents the satisfaction of the other, as when a man cannot please his mother and his wife too, but sometimes the conflict is internal, as when a boy's love and resentment of his father conflict. Conflict, as Adolf Meyer used to say, is the cause of most of the suffering and mental illness in the world, but it is also of course the matrix of learning and development.

Needs are also connected by *means-end relations*, as when you need a racquet only because you want to play tennis. Or the dependence may be mutual, as when you want to develop a good service, but also to return a service effectively, but neither is desired without the other. Indeed, the dependence is mutual more often than we think. Thus the man who says that he plays to win would have to admit, on reflection, that he wants to win only by playing the game with all its trials and rigors. How absurd the separation of means-needs and end-needs may be is illustrated by two examples: The student in James' story who gets up on a dark night and runs down the deserted gridiron to put the pig skin between the goal posts, and the man who, when caught fishing in a cement swimming pool, explains that he is not fishing for fish but for fun. Dewey argued very effectively that means and ends are often bound up in a continuum of ends-means in which means are also ends, and ends also means. When this doctrine remains empirical and is stated for a restricted range of cases, it is sound and valuable. When it is generalized to all cases it is pretty obviously false. In some future state of the world a medical operation might not be purely instrumental, but have, as a part of a larger experience, a positive value of its own. At present this is generally not the case.

End-needs can be distinguished from means-needs by

their relative independence and persistence. Rats can be trained to take the shortest path through a maze to food at the end. When this path is blocked the rat soon loses interest in it and finds another path, and if the whole maze is flooded the animal will learn before long to *swim* to the goal. The need to run any particular pathway is instrumental to the need for food, but the need for food is not instrumental to the need to run a particular pathway, and would persist even if there were no pathways at all. We may call a need of this sort a "master need."

A master need, however, should not be confused with what philosophers have called an "end in itself." If cats, which have been taught to perform a certain ritual to obtain food, are subjected to a sudden, frightening blast of air just before eating, their normal behavior is disrupted and and they may refuse food for days (8). This means that though the cats are half-starved, the master need for food is not an end in itself. It is an end providing the cost is not too high.

John Dewey argued convincingly against the notion of end in itself. In his *Democracy and Education* he showed that means may be cruel and ineffective unless they are also ends, and that ends are often deceptive or futile if they are not means as well. Yet the concept of master needs is indispensable. Whether it is an amatory passion, a humdrum conception of minor duty and personal integrity, or a scientific project, there are needs which persist against opposition, sometimes a whole lifetime, excogitating and selecting endless means to their fulfillment. More and more psychologists are coming around to the opinion of Alexander Shand who, in a fine pioneer book, *Foundations of Character*, maintained that master needs, or what he called "sentiments," are the key to biographies.

We have now to consider the view that master needs are always basic tissue needs.

A recent text in social psychology (9) calls attention to "a curious parallel" between psychoanalysts and biocentric psychologists. "Just as the psychoanalyst directs his attention to the psychosexual past of the individual in the search for motivational meaning, so does the biocentric psychologist direct his attention toward the physiological instigators which he regards as the real source of all motivation." In the biocentric view the secondary or learned drives are cast in the role of servants to the primary physiological drives and "are often viewed as surrogates of the original internal instigators; thus, mother love may be reduced to the stimulating effects of the ovarian hormone."

Let us consider the position of a leading biocentric psychologist who is also a psychiatrist. "All behavior," Masserman (10) says, "is fundamentally motivated by physiologic requirements of the organism. . . . Just as we, as humans, behave more or less complexly to secure consummation of our needs (pleasure) and to avoid physiologic tensions (pain), so a dog reacts to a so-called conditioning situation only when he is fed, petted, hurt, or given some other reason to be interested in the procedure." And in another place (11) he states that even the complex social strivings of man, "however displaced, rationalized or sublimated, can be traced to more nearly elemental and sexual or parental drives, and lastly, needs for sustenance, shelter, protection from injury and other such physiologic determinants as emerge when the core of our living is stripped of its multiple-faceted social adaptations and verbal embellishments."

Masserman does not pause to defend this thesis, but he does suggest one argument which might run as follows: Why does a student read a textbook? (1) To gain knowledge. Why that? (2) To succeed in his profession. Why success? (3) To satisfy "psychobiologic needs," such as thirst, hunger and sex, and to avoid injury. Note that this

standardized type of argument makes assumptions at every step: That reading books and other such learned activities are never self-satisfying, that knowledge is sought only if it serves some practical purpose, that the only reason for wanting professional success is to secure the satisfaction of tissue needs.

The real arguments for the biocentric view derive from laboratory experience, clinical findings and interpretations, and from the well-known persistence and independence of tissue needs, to which we have already referred. At the beginning of life only physiological needs exist, and what the baby learns are mainly noises, gestures and strategisms for getting food and comfort on time. As the neuromuscular system develops new forms of learning become possible, but much of this is also clearly in the service of physiological needs. And if the grown man evolves arts and sciences and customs which appear to live a life of their own, even these can often be shown to relate to bodily needs indirectly. The servicing of these needs is known to be necessary—even sufficient on some levels of existence—and so it is easy to argue that the endless array of cultural forms are simply diverse methods, successful or unsuccessful, to ensure physiological satisfactions.

Learning experiments seem to give some support to the biocentric view. By associating food with a given performance, or an electric shock with alternative performances, it is easy to inculcate a habit or need in animals which, however, persists only so long as the reward or punishment is administered. Such habits or needs are clearly instrumental. They persist when they satisfy physiological needs and are extinguished when they cease to do so, and it is argued that other learned needs, however complex and involved, would also turn out to be instrumental if we only knew enough about them.

Psychotherapeutic results, as interpreted by the Freud-

ians, also buttress the biocentric position. For the source of neurosis is always sought in the conflicts of early childhood, conflicts which result in the rechanneling of biological urges, especially the sexual, and the learning of surrogate activities which are socially acceptable, or which may be a means of eluding the conflict. Whether the adjustment of the individual takes the form of fixation, regression, anxiety, compulsion or sublimation, the adjusted activity is regarded as a surrogate, or an indirect appeasement of the primary drives. All learned needs, all the drives toward the arts and sciences and civilized living are instrumental, and would presumably disappear if the biological needs were promptly gratified.

The biocentric view is supported by a massive array of facts, yet many authorities find it unconvincing. It is true that life begins with pure biology, and that civilization and all the arts develop from a biological base. But to argue from the origins of human life to its nature would be a rather obvious example of the genetic fallacy. Yet even the best psychologists sometimes fail to make a clear distinction. Tolman, in a recent book (12), divides all motives into biological drives and social techniques. He prefers the term "social techniques" to "social drives," he says, "because the former emphasizes the essentially instrumental, or ancillary, character of social responses. Living in groups, as the gregarious species do, it is inevitable that they should have developed . . . certain types of social behavior and that these should serve as techniques for ensuring more food, drink, sex; and the like." Yet he supports this view with statements to the effect that the products of civilization are "complicated outgrowths" of the biological drives, statements which are true but irrelevant.

Learning experiments do not back up the biocentric view unequivocally. The fact that the rat's habit of running a maze is commonly extinguished by eliminating the food

at the end of the run, does not prove that all learned needs can be snuffed out in this fashion. It does not imply that people have to have biological rewards, however indirect, for playing chess or going to the opera. Even where rats are concerned the theory that all learned needs are instrumental breaks down. A learned preference for food saturated with saccharin, which has no nutritive value, may persist without extrinsic reward.

There are, in fact, many examples of learned needs in animals which perpetuate themselves without reward, and sometimes in the face of punishment. Thus Liddell (13) conditioned a goat to flex a foreleg in such a way that the flexion became permanent, and the leg was paralyzed for years until the animal's death. Masserman produced neurotic behavior in cats which showed considerable stability, and sometimes resisted his psychotherapeutic techniques, and in Maier's experiments (14) rats developed a fixation for jumping to the wrong window, i.e., the window where there was no food, though the response was always punished. Each time the hungry little animal would jump to the window where it had *formerly* found food, bump its nose and fall to the ground, and then repeat the performance. There are numerous instances of the kind.

Both Masserman and Tolman emphasized fixated drives though such behavior seems to us inconsistent with their biocentric position. Masserman (15) remarks that the "persistence of a stereotyped reactive pattern once psychobiologically adaptive but, under changed circumstances, no longer adaptive, parallels 'compulsive' behavior fixations in humans. . . ." Tolman also allows for fixations, that is, drives which get detached from their service to the biological needs, and describes them as "sign-gestalt-readinesses and —expectations 'gone wrong.' " Examples in rats are position habits which show up in discrimination experiments, in man, sex perversions and phobias. Sears (16) also states that

fixation in man is only apparently different from that in rodents. "The dogged perseverance of the aspiring novelist, the exasperating tenacity of a child in a temper tantrum, the pathetic confusion of the old workman faced with new tools," are in principle the same as the stereotyped repetitiveness of the rat which persists in depressing a bar which formerly released food, but no longer does so. Sears' inclusion of the persistence of the would-be novelist as a case of fixation is significant. Trying to write a novel may not serve biological needs, even indirectly, but often fulfills other strong needs most important for self-development.

Pavlov set up his classical experiments in a way which would permit measurement not only of the formation of the conditioned connection, but also of its gradual extinction. And in most learning experiments the learned act is controlled. It is no wonder that persistent instrumental acts are not usually reported by laboratories. But it happened that on one occasion Pavlov's laboratory was engulfed in a flood, and the dogs were trapped in this frightful situation, and without food, for days. Thereafter, as he reports, the animals were thrown into great agitation wherever they heard running water, and this fear required no reinforcement. Common experience, as well as fixations, would suggest that protracted fears are often formed by critical experiences and not only fears, but also animosities, affections and interests. Experimentors might produce such lasting drives themselves, by using very intense stimuli, but such drives would be difficult to modify, and hence to study.

The biocentric view is naturally more plausible in the case of rats than for chimpanzees, for the number of learned needs in rats is probably quite small, while chimpanzees are known to have a complex emotional life. Imagine the difficulty of accounting for the diverse behavior of a female chimpanzee, *vis à vis* two successive mates, in terms of tissue needs (17). She is friendly, playful and shares equally

with the first, but she is respectful and obsequious toward the second, making no effort to eat of their common food until he is finished. She shows no fear of this second mate, however, and seems to freely accept her humble position which he does nothing to enforce. Behavior of this kind would be difficult to account for at best; the biocentric view would only make it more so.

The view that all learned needs are instrumental to physiological satisfactions is, of course, least plausible in the case of human beings. Drives detached from physiological service are everywhere apparent. Freud, who tends to the biocentric viewpoint, insists that there is a fixation at the root of every neurosis. A fixation, however, is precisely a drive which no longer satisfies the Id, or is at bottom inconsistent with biological drives of the ego. Otherwise why try to escape, for example, from a pregenital fixation of the sexual drive?

The prevalence of fixation is a blow to the biocentric view. So is what the Freudians call *sublimation.* If the libido or sexual energy can get "diverted" into personal ambitions, social projects, and cultural preoccupations, which can continue without mediating physiological satisfactions, these activities would seem to have all the "functional autonomy" one could ask for. Interpreted in this way, cultural strivings would have their original impetus in biological drives but once set in motion they could furnish their own steam. But this is not the usual interpretation of sublimation. On the contrary, it is held that though cultural activities may not facilitate physiological satisfactions directly, they do so indirectly, or that they are surrogates for such satisfactions. On the latter view the consuming interest in some department of art or science could be explained only as a substitute for impeded sexual satisfaction, either genital or pre-genital. What the individual really wants is sex or other biological fruitions, but since he can't get them

he settles for archeology or takes up the piano or painting in the style of the modern French school. If sex and other biological gratifications were ample, culture and all the adornments of life would presumably disappear.

The proof of such a theory would have to be evidence that people tend to give up cultural activities when they straighten out their sexual life, and that societies in which frustrations arising from toilet training, weaning, incest and other sexual taboos, are at the minimum, are relatively free from art-forms, literature, science and religious practices. No such proof is offered.

The alternative to the biocentric view was first set forth in 1918 by Woodworth (18). In opposition to McDougall, who had reduced motivation to a few instincts, he contended that "a motive . . . is an activity in progress, and any complex activity, once the individual is fully embarked upon it, furnishes its own motivation." Every mechanism, unless it has become entirely automatic, "is itself a drive and capable of motivating other activities that lie beyond its immediate scope. The primal forces of hunger, fear, sex and the rest, continue in force, but do not by any means, even with their combinations, account for the sum total of drives actuating the experienced individual."

Thus the motive that inspires the chess player or the golf player cannot be explained by reference to "an undifferentiated reservoir of curiosity and manipulativeness. The driving forces are specific, and acquired in the learning of these games. In the same way, while a man may enter a certain line of business from a purely external economic motive, he develops an interest in the business for its own sake (unless he is out of his element), as he acquires a mastery of its problems and processes. . . . The end furnishes the motive force for the search for means, but once the means are found, they are apt to be interesting on their own account."

Woodworth points out how dull and inefficient work would be if it always required an extraneous motive. Business men could have no hope of getting their employees interested in the work, and the only motive they could appeal to would be higher wages. And even higher wages would be of doubtful value if they were beyond what biological needs required. Similarly, teachers would always have to rely on praise and reproof, and could make no use of aroused interest, the most humane and efficient of motives. The fact is, however, that the modern school relies more and more on interest as a motive, and improved techniques of instruction and preparation have rendered student-interest in different subjects more predictable.

G. W. Allport (19), who accepted Woodworth's view, and gave it the name of "*functional autonomy*," devotes considerable attention to this last point. What activities become self-sustaining drives depends on the specific preparation of the subject. Learning to like mathematics or French painting since Cezanne requires not only frequent exposure to them, but also a groundwork of understanding. We love what we are prepared to understand, and we become enthralled by activities in which we have developed a skill. But a certain amount of complexity is always necessary. If there is not enough diversity and unity in diversity, attention wanders. If there is too much repetition we turn away from the monotony; if there is not enough unity the activity will not hold together as one thing that could be remembered and desired. Thus what is called general intelligence is a factor in the formation of self-sustaining drives, for high intelligence and intensive training demand more complexity. With further progress in the social sciences and psychology, the kind of activities proportionate to human nature at different historical periods, will be better understood.

The biocentric view conceives man as a complex animal,

magnificent in his way, but always an animal, seeking, in the end, only what the animal seeks. It is thus akin to "social Darwinism" which, in the wake of the great discoveries of Darwin, carried over the concepts of evolution from biology to human history, and for a time exerted the widest influence. The prodigality of nature, the struggle for existence and the survival of the fittest, were applied to human affairs in a way which Darwin, it can be argued, never intended. The implications of social Darwinism were both progressive and reactionary, but it was the latter which were everywhere emphasized (20). The scientific flaws of the theory were pointed out by Lester Ward (21) as early as 1883. Human development can not be subsumed under biological evolution, he said, because the casual factors in human progress—the division of labor, the rise of technology, the rationalization of industry, and the development of the arts and sciences—have no parallels in biological evolution. Thus the time-scale of evolution is millions of years, or hundreds of millions, whereas the time-scale of progress is hundreds of years or mere decades.

The biocentric view, like mechanism, is a reductive theory. It reduces psychology, history and the social sciences to branches of biology. These sciences deal only with instrumentalities for securing biological satisfactions, and their laws and principles, if adequately formulated, would have to be biological laws and principles. The concept of functional autonomy, on the other hand, is associated with the theory of "integrative levels," which recognizes a diversity of methods appropriate to different subjects. How far biological principles of explanations extend is, according to this theory, an empirical question, not one to be settled in advance.

The theory of integrative levels holds that biological causation is basic and necessary to psychology and the social sciences, but not sufficient. It is always part of the

explanation of any social phenomenon, and often it is the crucial part. When this is the case, or seems to be the case, psychological or social theories about the phenomenon in question are abandoned. Thus if there were two theories about the aetiology of a certain ailment, one that it is psychogenetic, the other that it is a nutritive deficiency, it is the latter that would be tested first, before the former is seriously considered. Yet the biological type of explanation has obvious limits. The theory of integrative levels points out that the social sciences are not, as a matter of fact, biocentric, and that there are reasons for thinking they never will be.

II

EMOTIONS

4. NOT SIMPLY REACTIONS

Emotions are frequently separated from Needs and Motivation and discussed as an entirely new topic. From a logical point of view this seems unwarranted, for anger and love are obviously motives, and they are also acquired needs to feel and behave in a certain fashion. No doubt there are differences of emphasis and usage. Sometimes it is more appropriate to use the term "need" rather than "emotion," and vice versa. But usage does not seem to be very consistent, and sharp distinctions in this area serve no purpose. In this section, therefore, we will discuss emotion, but also acquired, or learned, needs.

It would seem pretty clear that emotions are learned. Hunger and thirst are not regarded as emotions, nor is the child's first retraction of a finger from a hot stove. Fear is not the automatic withdrawal from injury, but the anticipation of injury. Hume verged on this distinction when he pointed out that fear is not a sensation, such as pain or cold, but arises from the idea of it. When the child first touches the stove a connection is formed between the visual pattern of the stove in the cerebrum and certain pain terminals in the cerebrum, with the result that when he next sees the stove, he experiences fear, i.e., the anticipation of injury. Of course, on this occasion the stove may not be hot, and other people may be seen to touch it while smiling and happy. By a process described as differential conditioning the child may thus learn to distinguish between the hot stove which is dangerous and the cold stove which is not. Fear becomes more accurate.

Fear is not the same as the "startle" response, as so many psychological studies seem to assume, for fear is understood to be fear of something—even though the subject does not know what the something is. One of the pioneers in the study of emotions in infancy was John B. Watson (22). He concluded that though almost all emotional responses are learned, there are at the beginning of life three which are unlearned—fear, rage and love. A sudden loud noise produces in the infant "a jump, a start, a respiratory pause, followed by more rapid breathing with marked vasomotor changes, sudden closure of the eyes, clutching the hands, puckering of lips." When the child is older, other fear reactions, such as crying and running away, take place. The early "fear" pattern described by Watson is similar to the startle response and to the Moro reflex which can occur without fear, nor is this pattern always present when fear is experienced. In fact there seems to be no consistent and distinctive fear pattern. The most that can be said is that "startle" and other reflex patterns of the infant, which first occur in isolation, can later on enter into the expression of real emotions.

The danger of identifying emotion with external reactions is well illustrated by experiments in which the emotional reactions are produced, but the emotion itself is absent. Thus Masserman (23) introduced electrodes into the hypothalamus of (unanesthetized) cats. When the stimulation was increased to 5 to 8 volts the cats showed "hyperpnea, salivation, myadriasis, marked piloerection, snarling, lashing of the tail, and rapid jumping, biting, clawing, and running movements resembling those in rage or fear." Yet the behavior pattern lacked the essentials of these emotions. "These reactions are stereotyped and undirected: the animal does not attack the experimenter's hand and makes no attempt to escape through the door of the cage." This phenomenon, which has been demonstrated in different

ways by a number of psychologists, is called "sham rage." The animal exhibits the symptoms of rage or fear but does not react to rage and fear objects, and the symptoms disappear abruptly when the stimulation stops.

That emotions can not be reduced to units of objective behavior is evident from many sides. Thus Hebb (24) states that in the study of chimpanzees pure observation reports were useless when not interpreted in terms of emotional needs. A two year program was carried out in the Yerkes Laboratories "to provide records of the actual behavior of the adult chimpanzees, and from these records to get an objective statement of the differences from animal to animal. All that resulted was an almost endless series of specific acts in which no order or meaning could be found. On the other hand, by the use of frankly anthropomorphic concepts one could quickly and easily describe the peculiarities of the individual animals, and with this information a newcomer to the staff could handle the animals as he could not safely otherwise."

Identification of emotions naturally required a knowledge of the stimulus the animal is reacting to, and the character of its past reactions. "In short, the distinction between *shyness*, *nervousness* and *fear* is impossible without knowing something about the animal: and the term chosen, in these instances, is affected by the knowledge of the stimulus, of the response, and of the subject's experience and behavior in the past." Corroborating testimony comes from many investigators. Gantt and Liddell insist on the importance of knowing how the environing space looks to the experimental animal, and of comparing its behavior in the experimental room with that outside. The emotional needs of the animal can have a crucial effect on the course of learning experiments. Snygg (25) argues that putting yourself in the place of the rat, and asking yourself how you would behave in a comparable situation, can furnish

useful hypotheses. In fact, a number of experimental psychologists have gone over to the method of empathy which was formerly anathema.

The most spectacular example of emotional involvement in ordinary learning experiment comes from Pavlov's laboratory. In the course of a routine discrimination experiment, Pavlov associated food with an illuminated circle and no food with an ellipse of the same area. The dog soon learned to salivate to the circle, but not to the ellipse. When the ellipse was thickened, so that it more and more resembled the circle, the dog still made the distinction, salivating to the circle but not to the ellipse. But when the critical ratio of nine to eight was reached the accumulating emotional conflict of the animal suddenly manifested itself in erratic and unprecedented behavior. The dog, Pavlov said, had become "neurotic." Thereafter he devoted many years to the study of this phenomenon. It became clearer that the arbitrary restraint of the harness and the routine of the laboratory had engendered emotions which, though not always outwardly expressed, had been a factor from the first.

5. EMOTIONS AS PLEASANT AND UNPLEASANT

Aristotle's view that pleasure is the accompaniment of the normal functioning of organs and faculties, is still widely accepted. Medicine takes it for granted: If the patient is in pain it is assumed that there is disfunction of some kind, which is almost the same as saying that if there is health there is pleasure. The distinguished neurologist, C. J. Herrick (26) is often quoted in support of this theory:

"The simplest view seems to the author to be that the normal activity of the body within physiological limits is intrinsically pleasurable, so far as it comes into consciousness at all. There is a simple joy of living for its own sake, and the more productive the life is, within certain well-defined physiological limits of fatigue, good health, and

diversified types of reaction, the greater the happiness. The expenditure of energy within these physiological limits is pleasurable per se except in so far as various psychological factors enter in to disturb the simple natural physiological expression of bodily activity. Such disturbing factors are anxiety, want, rebellion against compulsory service, and unrelieved routine. The expenditure of intelligently directed nervous energy along lines of fruitful endeavor is probably the highest type of pleasure known to man."

The physiological theory of pleasure has been further elaborated. L. T. Troland (27) argues that pleasantness "accompanies any activity which decreases cortical synaptic resistance," unpleasantness, any activity which augments this resistance. Thus when we solve a problem well and easily, the nervous impulses speed along their pathways without too much obstruction at the synapses (the juncture of the neurons), and the process is attended with pleasure. But learning involves the opening up of new pathways. This is explained by the assumption that there are possible neuron connections between any two processes in the cerebrum. According to the current theory of neurobiotaxis, neurons, when stimulated, actually grow and extend their arborizations to meet other neurons across a gap. Thus facilitation of learning, and the resulting pleasure, would be a function of the stimulation and ready growth of neurons.

The Aristotelian view that pleasure accompanies healthy activities appropriate to man, and that a life of such activities is happiness, or the Good, is called "eudaemonism." In some respects it contrasts sharply with "hedonism," for hedonism holds not only that pleasure is good, which is obvious, but that it is, or should be, the goal and conscious aim of life. For the eudaemonist this is a gross simplification of human motivation and a doubtful precept for attainment of pleasure. He does not deny that people, on occasion, seek pleasure as such, but maintains that what is

distinctive of human beings is the quest of concrete goals —particular *kinds* of food, companionship and entertainment—by particular routes, employing particular skills and know-how. To say that what Napoleon, Darwin and Cezanne sought was pleasure, and the absence of pain, seems to miss the point and to obscure the difference. Eudaemonism defines human striving in terms of the concrete diversity of goals that are sought, and this has one clear advantage: Diverse goal-seeking can be observed and measured, in rats and men, whereas pleasure cannot be determined systematically. This is why the pleasure-pain calculus ended in a fiasco.

Many theories of pleasure do not affect our argument one way or another, and need not be mentioned. Tolman (28), however, brings out a very relevant point. Pleasure may not result from successful activity, but from the anticipation of it: "Pleasantness is thus, first of all, the assertion that staying in the presence of, or having some other kind of commerce-with, the given, presented object, or situation, will lead to physiological quiescence." And in Tolman's view, feelings not only include generalized "sign-gestalt-expectations," but also visceral and skeletal movements appropriate to them, and the resulting sensations, which are also cues or expectations. He in fact includes so much in pleasure that, except for the fact that the expectations involved are vague and generalized, it differs in no way from emotion. His view thus emphasizes the typical envelopment of feelings by emotions.

Subjectively considered, pleasantness and unpleasantness are regarded as feeling-tones which suffuse experience, and tend to spread from the point of origin to the whole field of consciousness. Their locus and extension is of some interest. Santayana described beauty as "objectified pleasure," emphasizing the frequent localization of the feeling. The German philosopher, Max Scheler (29), developed the

theory that there are different levels of feeling, which form a hierarchy. Pleasantness and unpleasantness occur on the sensory level when they arise from a part of the body, as when we enjoy a sweet taste or suffer a toothache. They can occur on the vital level, as when health and energies are felt to be on the upgrade or downgrade, and also on a third level of personal striving—professional, social or amatory. Scheler argues that pleasantness and unpleasantness on a higher level dominates these feelings on the lower, so that in the joy of personal success, or of robust health, we are not disurbed by distress due to injuries or ailments of the body. And this is certainly the *ideal.* People who have projects and something to live for are less embarrassed by the body and its accidents.

Everyone grants that feeling is an important phase of emotion. So much so that emotions are usually classified according to whether they are pleasant or unpleasant. Spinoza started out with striving as the essence of man and described pleasure as its fulfillment, or as that which increases the body's power of acting. Or, more precisely, "pleasure is man's transition from a less state of perfection to a greater." Pain is described in a corresponding way, and the principal emotions are then defined as pleasure or pain in relation to objects of experience. Thus love is "pleasure accompanied by the idea of an external cause."

K. M. B. Bridges also divides the emotions into pleasant and unpleasant, but her approach illustrates the difference between the twentieth and the seventeenth centuries. She begins with Stratton's conception of "undifferentiated excitement," which she confirmed by observing and testing emotional responses of hundreds of infants in the Montreal Foundling and Baby Hospital. Life begins, she concluded, with undifferentiated excitement but, as the months pass, it is consecutively differentiated into delight and affection, on the one hand, and distress, anger, disgust and fear, on the

other. Bridges' classification is empirical and genetic—typically modern. Emotion, like reasoning, has its origin in what James called a "blooming buzzing confusion," and must wait for its development on maturation and learning.

6. EMOTION AS FEELING-ATTITUDE-COGNITION-EXPECTATION

The purpose of this hyphenation is to suggest that in the emotion itself these four factors are interfused. For example, you are pleased about something (the cognitive object), and have an attitude toward it, and hence certain expectations with regard to it. The attitude does not stand alone because it is an attitude toward an object, and is determined by beliefs about this object whether true or false, probable or improbable. If an attitude were something complete in itself, we would have to say that those who *approve* of the New Deal, and those who *approve* of the Republican opposition to it, have the same attitude, for both sides approve.

Cognition, conversely, depends on attitude. For suppose a man merely entertained the proposition "The New Deal is the best program for the American people in coming years." No one would say that he knew this was true, for he might entertain also the contradictory of this proposition. That is, he might think of both as possibilities. To know anything one must be prepared to assert something. To know something without appraising it as true would be a contradiction. That the attitude is necessary for knowledge may be seen by considering a conditional syllogism:

If the barometer falls, it will rain.

The barometer has now fallen.

Therefore it will rain.

Unless there is a shift of attitude, unless "it will rain" is first merely entertained and then asserted, there is no argument. All demonstration apparently involves a shift of attitude.

Knowledge involves acceptance or rejection, and these appear to be attitudes quite as much as approval and disapproval, and other stock examples.

Knowledge also involves expectation—a readiness to respond in certain ways, for brain states, like other events, are supposed to have effects. In practice, psychology, even introspective psychology, ascertains the presence of knowledge by the readiness to respond to certain stimuli.

The four factors mentioned, in short, are phases of the complete emotion. *Within* the emotion they are incomplete acts, in Husserl's sense. To investigate one of them concretely is to investigate the others. Even to speak of one implies the others. Thus "Winston Churchill has an attitude," or "Winston Churchill resents," would naturally be taken as incomplete assertions, as incomplete symbols, in Russell's sense, since the object which would complete the meaning is missing. The four factors, *within* the emotion, are thus like verbs and adverbs, in actual use. But just as it is helpful to study the parts of speech in grammar, it is also useful to consider the parts of emotion abstractly. Let us begin with feeling as contrasted with attitude.

Feelings have the distinction that they can occur in the absence of attitude—and emotion. Suppose, for example, that a man gives a "startle" response to an unexpected electric shock. He has no time for an attitude toward it and may be, for the moment, without *any* attitude, though the experience is obviously unpleasant. Moreover, the feelings are only two in number, pleasantness and unpleasantness, whereas the attitudes are innumerable. They are usually divided into desires and aversions, but the variety of each is inexhaustible. Hope and fear, love and hate, warm approval and anger, are common examples, but most attitudes, whether because they are too rare or too complex, have no names in the language. It may require a great novelist or a great painter to describe them adequately.

Feelings are relatively simple and are said to be immediately given, whereas attitudes are often complex and devious, depending on knowledge of the emotional object. Thus a man almost always knows whether he is pleased or not, and when he says he is pleased, the statement is not regarded as essentially incomplete. About their attitudes, on the contrary, people are frequently in doubt, and may spend days or even years, with the help of an analyst, in understanding them. To communicate them to others may be even more difficult. This is because attitudes, unlike bare feelings, are directly dependent on the changing knowledge of their objects, and of course are often unconscious.

The relation of attitude and cognition is highly controversial in some respects. Husserl was no doubt right in maintaining that the content apprehended can remain the same while the attitude is varied. Thus one can expect that it will rain, doubt it, regret it, and then hope for it, without the intended object, the eventuality of rain, undergoing any change. If this were not the case, then the conditional syllogism mentioned above would not hold, and formal logic would not automatically apply to ordinary discourse.

But there are other philosophers, mostly in the Hegelian tradition, who maintain that when the attitude changes, it is because the apprehended content has changed. When we expect rain we expect rain-as-a-probability-in-the-light-of-certain-evidence; when we doubt it will rain we doubt rain-as-a-probability-in-the-light-of-*other*-evidence. Thus what we expect is not the same as what we doubt, nor is what we regret the same as what we hope for: What we regret may be something that interferes with a fishing trip, but what we hope for may be something that interferes with the trip so that we can accept an invitation that has just arrived. What we regret is not simply the eventuality of rain, but the coincidence of rain with the fishing trip, and what we later hope for is not simply rain, but rain as setting us free

to accept the invitation. Similarly, when we shift our attitude on a certain issue from approval to disapproval, it is because new facts, reasons, or a new way of looking at the matter, is available, so that the issue for us is no longer the same.

These two conceptions of the relation of cognition and attitude are both correct, in a sense, and are quite compatible. It is true that people do not first approve and then simply disapprove of the same object. New reasons or perspectives have supervened and thus the object, as intended, has changed. But it is also true that such differences can often be neglected, with great profit. This is especially true in formal logic, where the shift of attitude is from entertaining to asserting. In the above argument the difference between rain-as-a-mere-possibility and rain-as-highly-probable-in-view-of-the-facts, can be safely and profitably disregarded. In other cases, where the problem is precisely the relation between cognition and attitude, these differences, as we will argue, become crucial. To assume that attitudes can change while the intended object remains the same, and that this is typical of human beings, is to assume a basic irrationality which does not have the support of common experience or of learning theory.

One theory of emotion which clearly recognizes the four factors we have been discussing is that of Tolman (30). Emotions, he says, consist of (a) pleasantness or unpleasantness, which involves a vague expectation of quiescence or disturbance; (b) "an assertion as to a relatively specific character in the promised 'good' or the threatened 'bad'; and also (c) a more specific assertion as to the sort of means-end-relations which obtain between the immediate sign and this promised or threatened physiological significate." There are also (d) incipient movements and visceral activities; and (e) the resulting kinesthetic and organic sensations.

This last component of emotion, which we have not yet discussed, is very important because the wave of sensations gives a distinctive body and fullness to the stronger emotions, and because the sensations are cues to the organism for a readjustment of behavior. Thus, the sensations arising from the muscular and glandular reactions in a sudden fit of anger often awaken fear, so that responses are reorganized along more prudent lines. Similarly, an enthusiastic response to a new play or painting, or a piece of music not yet classified, may be checked by a fear of ridicule. Fear is a pervasive emotion in our protected, yet competitive, society, and so is the resentment and self-contempt aroused by fear. How many times do people, sensing their own fear, convert it into a sudden outburst or glowering anger! The awareness of sensations peculiar to a certain emotion can thus have various effects. A man, sensing his own anger, becomes angrier still, or frightened, or ashamed, or suddenly realizes, because the sensations he feels have become cues for expedient actions, what it is he must do.

The emotional response to our own emotions is an example of what the cyberneticians call "feed-back," a self-regulative mechanism which they find exemplified also in many machines. Important as it is, self-regulation is not *necessary* to emotion, nor are organic and kinesthetic sensations. There are mild and continuous emotions in which special bodily sensations would be hard to establish, and there is the case presented by Cannon of a woman who experienced emotions though deprived of all sensation below the neck. We will confine our attention for the moment to the four factors of emotion.

A key to the relation of these factors may be furnished by the learning process. Does expectation of goal-objects and of ways and means to them necessarily include within itself, as in Tolman's theory, all the other factors? And must expectations, fairly specific expectations, be assumed

to account for learning, even of rats? If so, then what we have called the four factors of emotion—feeling, attitude, cognition and expectation—are inextricably bound up together in the foundations on which learning theory is being built.

In the first place, specific expectation has been demonstrated. In 1929 Tinkelpaugh (31) produced unmistakable signs of disappointment in the chimpanzee by substituting the less desired lettuce for the more desired banana. The chimpanzee saw the experimentor put a banana under a dish, but then a piece of lettuce was surreptitiously substituted for the preferred food. When the unsuspecting animal was allowed to run to the dish, and found no banana, he was obviously angry and refused to eat the lettuce, though he would have ordinarily done so. About the same time experiments were reported by M. H. Elliott (32) which showed that maze-learning of rats is disrupted if the reward is suddenly changed from water to food, and the motivation is simultaneously changed from thirst to hunger. The rats were hungry, but what they expected was not food but water. The disruption of learning, however, lasted only one day. One experience, Tolman commented, had been enough to shift the rat's expectation from the old goal-object to the new. Even clearer were the implications of experiments in which the goal-object was changed from a more, to a less desired one. When sunflower seeds were substituted for bran mash, the animals did not eat the seeds steadily but spent some of their time in "random searching" (33).

Among the many experiments showing the role of expectation in animal learning are those of P. T. Young (34). He found that when other factors are controlled, rats run faster, and hence learn faster, when the goal is a favorite food, such as sugar, than when it is a less preferred food, such as casein. During a thousand runs, the preference for

sugar not only remained intact, but steadily increased until it reached 100 per cent. In another experiment discussed by Young, hungry *and* thirsty rats were trained in a simple T-maze with food in one box and water in another. Now what would happen if the rats were hungry, but not thirsty? Would they go directly to the food box, which they had explored so often, or would they go inappropriately to the equally familiar water box? Kendler found that they went directly to the food, which would mean that they had *learned to expect* that one path would lead to the *expected* food.

Experiments of the kind give considerable support to Tolman's thesis that learning, even in rats, has to be understood in terms of more or less specific expectancies. Unpublished findings by Lorge, Polin and Stockhamer indicate that Albino rats develop expectancies for certain foods, and the authors have contrived interesting techniques for demonstrating changes of expectation. One group of rats is required to go through a face-washing routine to obtain food, and to run a maze to obtain water. What will happen if, after the face-washing and the maze are learned, the rat finds food instead of water in the goal-box? Will the animal, which is both thirsty and hungry, eat the food immediately or face-wash? When the latter occurs, it means that the learned expectation of getting food in a certain way takes precedence over the biological need for food. In a later experiment, which has been filmed, rats were again trained to face-wash to obtain a specific kind of food. When a less preferred food was substituted, which the hungry animals would ordinarily have eaten greedily, they refused to touch it. Repeatedly, they face-washed and were admitted to the compartment where abundant food, which was not, however, the *expected* food, had been placed. Repeatedly, they avoided this substitute food and

searched about frantically for the original food they had learned to expect.

It is evident from such studies that learning is not simply a function of (biological) "need-reduction," (35), as Hull maintained, but that "palatability" of foods is an additional factor. Indeed, preferences for specific foods, once established, can persist independently of, and even contrary to, biological needs, a fact that gives further support to the theory of the functional autonomy of habits, which was discussed in Section 3. Young (36) suggests that these specific food-preferences persist when they are connected with "affective arousal." When the animal learns one pathway in a maze to food and another to water, he explains the persistence of both drives "on the basis of" two distinct affective arousals (pleasures). It is clear, therefore, that the affect is not merely affect, but also an attitude (for or against) toward something apprehended, and a readiness to respond to it appropriately. Young's affect thus begins to look very much like what we have called emotion.

Evidently learning experiments have something to do with our subject. In a recent article two psychologists (37) have called attention to the similarity between emotional conflict and trial-and-error learning. In both cases there is strong motivation toward a goal which is blocked, and in both cases there is "persistent activity that is varied and exploratory . . . involving barrier-circumventing or 'solution' responses and possibilities of readjustment and learning."

The intimate connection between emotion and learning is also illustrated by Dollard and Miller's (38) recent volume, which interprets the whole field of psychotherapy in terms of learning theory as understood by Hull and the Yale school. The learning principles of this school include the gradient of reinforcement, generalization, extinction,

spontaneous recovery, higher order conditioning, and the like. The authors argue at length that these principles explain how neurosis and the repression of symptoms might be learned, and also how a cure is effected.

These principles of learning can be roughly illustrated as follows: The gradient of reinforcement principle states that prompt reinforcements (rewards and punishments) are more effective than delayed ones. Generalization is the transfer of learned responses to similar situations, as when a boy who has learned an ambivalent attitude toward his father, carries it over, in some degree, to other men. Extinction means the gradual disappearance of a response with non-reinforcement, as when a man who has learned to fear competitive situations, which have been associated with pain and frustration, eventually ceases to fear them when he begins to compete more successfully. If the fear suddenly returns, however, it might be explained as spontaneous recovery.

This book has been praised as a bold advance in speculation, so much needed in psychology, but also criticized. In the first place, as we have noted, reduction of *biological* needs does not account for all learning, and learned drives may persist, even a lifetime, without *biological* reinforcement. It is also clear that the learning principles which have been carefully tested in relatively simple laboratory situations are carried over rather summarily to the complex involvements of psychotherapy. Perhaps, as Hebb (39) suggests, the whole conception of conditioned response as a direct connection between stimulus and response, is too simple to be generalized to learning in general, and that what is needed is a return to a conception of "association" which emphasizes cerebral connections.

The shortcoming of Dollard and Miller's approach may be seen in their treatment of fear as simply a response, and of expectation as a "jumping the gun" response. Fear is not a response, but the anticipation of injury or deprivation.

The retraction of the hand when a child first touches a hot stove is only a reflex, not fear, but on subsequent occasions the perception of his close approach to the stove may cause the child to retract his hand before contact is made. This shortening of the behavior sequence, eliminating injury (or the delay of consummation), is what Dollard and Miller call the anticipatory response. This is an important phenomenon, of course, and can be observed in animals, children, and even adults, when thought processes are mechanical or uninhibited. Much of the humor of pantomine and the silent movies is Bergsonian. A character reacts to wine, women or song by going through anticipatory motions of gratification. But anticipation is not typically "jumping the gun," even in rats. The rat which anticipates food at the end of the maze may salivate (which is really preparatory) but it also runs the maze, or stands ready to do so. All this is quite different from rehearsing the consummatory response.

7. EMOTIONS AS CEREBRAL PHENOMENA

In 1884 James put forward his theory that when emotion occurs there is first a perception which is immediately followed by bodily changes, and that the emotion is simply the awareness of these changes. A year later Lange identified emotion with the bodily changes themselves. Probably because of James' generous recognition of Lange, these opposing theories have been combined under the name of the James-Lange theory (40). In 1939, Walter B. Cannon brought out his *Bodily Changes in Pain, Hunger, Fear and Rage*, in which a whole series of visceral changes were shown to be correlated with intense emotion. Since Cannon emphasized the role of the hypothalamus, and concluded that emotion could occur without awareness of visceral changes, his position contradicted James' theory, but not necessarily Lange's.

One difficulty beset all three theories. Since the visceral

reactions in fear, rage and other intense emotions appear to be much the same, how could one be distinguished from another? Since differentiating *motor* patterns for the different emotions were also hard to find, fear and rage of the same intensity would be scarcely distinguishable. Moreover, a strong fear of contracting tuberculosis would appear to be the same as a strong fear of unemployment. It is true that Magda Arnold (41) has recently suggested certain physiological differences between rage and fear, and it is possible that these and other differences will be confirmed in the future. But unless the cognitive object, specific attitude and readiness are absorbed into the emotion we would still be unable to distinguish among fears of equal intensity, or among other specific emotions.

Another consideration points in the same direction. Cannon concluded from a great deal of evidence that the hypothalamus is necessary for emotional expression and the point of origin of emotional excitement, and that the role of the cortex is normally to inhibit hypothalamic action, which it releases only in an emergency. A curious role was thus asigned to cortical inhibition; it had to function, not temporarily and occasionally, but almost continuously. Even in sleep, as Magda Arnold (42) has pointed out, when cerebral activity is supposedly at a low ebb, the cerebrum would have to send out a continuous stream of impulses restraining the thalamus. Cannon's theory thus associated emotion with a lower phylogenetic level, the mid-brain, and reason, prudence and restraint, with the cerebrum.

In 1950, however, Arnold (43) contended that much of the evidence which Cannon had relied on did not support his theory unequivocally, and was consistent, if differently interpreted, with what she calls "an excitatory theory of the emotions." For example, she argues that the "sham" rage (See Section 4) that appears in animals in which the cerebrum, and hence the cerebral inhibition, have

been removed, is in general no more frequent, intense or lasting, than the genuine rage of normal animals. This "sham" rage, moreover, need not result from the withdrawal of cortical inhibition, but rather from *excitation* produced by "acute irritation or traction by scar tissue." Similarly, the prolonged weeping and laughing observed in certain anesthesia cases, is better explained by cortical excitation of the hypothalamus than by the removal of cortical inhibition. Especially so, since recent studies have shown that stimulation of the cortex, whence nerve fibers proceed to the thalamus, produces an increase, not a decrease of thalamic activity. More striking is the evidence provided by hundreds of pre-frontal lobotomy operations. If the function of the frontal lobes is to inhibit emotion generated by the hypothalamus, how does it happen that the elimination of pathways proceeding from the frontal lobes to the thalamus results in the elimination of one very strong emotion, namely, anxiety?

Arnold's criticism of Cannon's hypothalamic theory is important, and so is her excitatory theory of emotion. The brain, she insists, is not a passive network, subjected to sensory stimulation, but was itself active previous to stimulation. "Psychologically speaking, the stimulus does not break in on us; rather we focus on it, an activity which may be called 'attention' or 'set' or 'expectancy'. . . . A similar focusing process may go on transcortically, and we now see what we expect to see *emotionally* (a flapping sheet becomes a ghost in the dark). This fusion of expectancy and sensation represents a psychological evaluation of the situation: How does this effect me? . . . A complete emotional experience would include the whole sequence—evaluation, emotional attitude (or feeling), resulting in emotional expression, autonomic changes, and their cortical perception and reevaluation" (44).

This account of the complete emotion resembles that

of Tolman, already cited, and our own hypothesis. Let us, following Arnold, illustrate the complete emotion by the example of a bomber pilot on a mission:

Observation: We are running into flak.

Evaluation: We may be hit.

Emotional attitude: I am in mortal danger.

Impulses from the frontal lobe are switched to the sympathetic nervous system, resulting in increased heart rate, blood pressure, etc.

Perception of physiological changes: I am trembling, short of breath, etc.

Secondary evaluation: Maybe I am losing control, perhaps I am a coward.

Secondary attitude: I am afraid, ashamed, or I am determined.

The cerebral conception of emotion contrasts sharply, as we shall see, with many current theories. For example, there is the popular notion that men in the throes of strong emotions operate on a sub-rational level, and literally "lose their head." Even distinguished psychologists often imply that whereas thinking is a cerebral process, emotion occurs on a lower level when people stop thinking. And there is the persistent conviction that the emotionality of drunkeness ensues only when the cerebrum has been put out of commission. The absurdity of such ideas is apparent after a moment's reflection. The drunken man may be a fool and a bore, but he regales in ideas, recollections, reasonings and projects. His cerebrum is working unquestionably, but not in the usual manner. Perhaps, as Hebb would say, the delicate timing of the firings of nervous impulses into the cell-assemblies of the cerebrum have been disturbed.

Closely related to these misconceptions is another popular idol. It is hard to find a psychological text which does not warn against *intense emotion* in general, as if it were deleterious to feel too strongly about anything. The public

takes the same view, disparaging strong emotions, yet esteeming love and certain other passions beyond anything in the world. It seems pretty clear, however, that whether a strong emotion is desirable or deleterious depends on its cognitive object, the attitude toward it, the rationale of the situation. It is perhaps sufficient to note that mother-love, love beween the sexes, the passionate quest of the scientist or humanitarian, are praised only when they *are* intense.

8. EMOTIONS AS INTENSE AND WELL-DEFINED AND RELATED CONSIDERATIONS

Intensity of emotion refers to:
The amount of visceral activity in emergency situations;
The amount of motor activity;
The intensity of sensations arising from these activities;
The intensity of the pleasantness or unpleasantness;
The persistence of the emotion, its resistance to extinction; or it may refer to all of these factors.

Well-defined is something quite different. A well-defined emotion is "clear and distinct" with respect to any of the four factors we have mentioned. When a man fears ghosts the *general* attitude of fear may be well-defined, but the object is vague, and so is the readiness to act. But there are also important cases in which the attitude is ambiguous, and a man finds out that his love for his wife is not at all as clear-cut as he had supposed, but vague or ambivalent. The feeling component of emotion is usually pretty clear, as we have pointed out. That is, a man ordinarily knows whether he is pleased or not. But expectation or readiness to act is well-defined only when the cognition of the object is well-defined, and vice versa. In fact, the one is usually understood in terms of the other.

Interest therefore centers on the two factors, cognition and attitude. We observe that attitudes usually change with changes of discrimination, apprehension and understand-

ing, but that this is apparently not always the case. The main question, then, is how far the two factors can vary independently. The power of knowledge to improve attitudes was emphasized by Spinoza: "An emotion which is a passion (confused, frustrating, painful) ceases to be a passion as soon as we form a clear and distinct idea of it." His corollary was that "the more an emotion becomes known to us, the more it is within our power and the less the mind is passive to it" (45). Modern psychotherapy also insists on the importance of insight in reforming attitudes, but it also recognizes that mere knowledge of the object and situation is often not sufficient. The patient is encouraged to try out his new insights in practice. The patient is cured, it is often said, in real life.

The question, already raised in Section 6, is whether attitudes toward a certain object can change in clarity or direction while cognitions and beliefs about it remain the same, and the answer, at first glance, is obviously Yes. Drugs and other physical therapy, for example, seem to change the patient's attitudes without affecting his knowledge in any way. For suppose a patient in a suicidal mood is given shock treatments which enable him to return to his job which had grown hateful to him. No information about his job has been imparted to him, yet his attitude toward it has changed.

But it would be rash to conclude from such considerations that attitudes can be reversed without anything having been learned. If a man who has undergone shock treatments improves his attitude toward his job, or his family, he has also learned to like his job, or his family. If a man changes his attitude toward alcohol, and becomes an addict, the case is no different. He has learned the consolations of drink. One mechanism by which such learning could take place is the removal of an emotional block, the recession of a cognitive-affective conflict. Drugs, shock treatments,

alcohol, comfort, reassurance, sympathy, example and guidance, may all have this effect, temporary or lasting (46). What we wish to suggest, therefore, is that when attitudes change in clarity or direction something has been learned, and that there is consequently a dependable correspondence between attitude and the cognitive factor.

Although we have discussed the correspondence of attitude and cognition in Section 6, and will return to the subject again in Sections 10, 11 and 12, our contention goes upstream against many authorities and popular assumptions, and it is therefore advisable to clarify here two points which might lead to misunderstanding. In the first place, the object of attitudes possesses not only conventional physical properties, but also intentional qualities and relations to the subject. We do not have attitudes toward chairs, beefsteaks or humming birds as such, but only as related to ourselves or others. Our attitude toward a chair as something to sit on when we are tired is naturally different from our attitude when we suddenly make contact with the same chair in a dark room. The chair *as in one context* is welcome, *as in the other*, vexatious. The attitude is different, but so is the cognitive object. In the same way, birds singing and flitting busily is an object quite different from birds in one's hair or eating the crops. It is true that a man's immediate attitude toward beefsteaks changes after he has had one, but so does his knowledge. He now knows that he is no longer hungry.

The other point which needs clarification is that the knowledge that mediates a shift of attitude may be difficult to express in factual statements, or to demonstrate, or may be inarticulate and in this sense unconscious. Suppose a man has a prejudice against a minority people which he overcomes by living among them, and sharing their problems. His new knowledge—the critical part of it—will be an understanding resting on intimate perceptions and empathy.

If asked to explain his change of attitude he may resort to examples and graphic descriptions illustrating the general point that the people in question are no different from others. On the other hand, a man who has lost or acquired a prejudice may not be focally aware of the fact, though he displays it clearly in his actions. He has learned something that he has not learned to put into words.

Cases of this kind help to explain why people should wrongly suppose that attitudes typically change without any corresponding change on the cognitive side. Another example is the phenomenon known as "emotional lag." Suppose that a man firmly and repeatedly asserts that races are equal and deserve equal treatment, yet when actually confronted with colored persons treats them consistently as inferiors. When insincerity is ruled out the usual explanation would be that the man is *intellectually* convinced, but that there is an *emotional* lag. The same phenomenon, however, can be explained in quite a different way. The man who affirms racial equality in theory while denying it in practice, does not really believe what he says but, at best, only thinks he does. Here, as in so many cases, belief and attitude-readiness-to-act are divorced only by neglecting the facts by which the former can alone be tested.

The clarification and readjustment of emotional life, which is said to be the aim of psychotherapy, depends on how voluntary the emotions are, and on the sense in which they are voluntary. If emotions are of the nature of seizures or fits, as some writers seem to think, there would be little hope. If they are always conscious projects, as Jean Paul Sartre contends, man would be more God-like than he is. Sartre (47) illustrates his position by examples such as the following: A girl who fears to tell a physician her real attitude toward her father, is not prevented from talking by her sobs. She sobs *in order not to be able* to say anything. A man who cannot answer a witty sally becomes angry and

intimidating instead. Similarly, when I play possum, or faint or freeze with fear, "I am trying to save myself in order not to see the wild animal anymore. Thus the flight into fear is a calculation . . . to put the greatest distance between oneself and the danger."

Kurt Goldstein (48) agrees with Sartre's dictum that emotions "are mobilized by man in certain situations for specific purposes," and states that "the individual *can and does bring himself into these emotional conditions because they make for better self-realization.*"

That there is a great deal of truth in this contention, no one will deny, even though appearances may suggest the contrary. Emotions designed to serve our purposes often seem to be involuntary. One reason is that they are projected out into perceptual and imaginal space. Thus we find this person lovable and that action hateful, just as immediately as we find a tennis ball white and a table hard. The lovable and hateful quality are often directly observable, so that it would seem to us absurd to say that we have *decided* to love the person, or to hate the action. Phenomenologically, attitudes of all sorts tend to get projected into the space of colors, forms and action. This phenomenon has been properly emphasized by Köhler, and especially by Lewin, who represented the space of the individual as consisting of attractive and repulsive forces, which are really objectified attitudes.

When attitudes are felt to be lures or warnings out in the environment, the tendency is to regard them as involuntary, just as we regard other percepts as involuntary. And people say they could not help loving a certain person, that they were swept off their feet, or that they felt an immediate and irresistible dislike for someone else. As an account of the immediate structuring of the psychological field of the individual, this is undoubtedly correct. As a causal explanation it would be absurd. The attitudes have

histories and are derived from past experience. And it may be, as in some of Satre's examples, that loving or hating a certain person, or kind of a person, may orginally have been a project of the individual, a design for self-realization. But is this always the case?

Attitudes and emotions are sometimes voluntary, but the claim that they are always voluntary, and completely so, is an absurd exaggeration. In the first place, choice and responsibility have degrees, and depend on learning. When we say that Sartre's embarrassed man might have laughed instead of getting angry, that he had a real choice in the matter, we are assuming that he has already learned to laugh in embarrassing situations. If he has not learned this, he cannot choose to do it. If, in such situations, he has learned no alternative to anger, then he has no alternative. Thus the degree of choice is a function of learning, and learning is, to a great extent, a function of objective opportunities.

The degree of choice depends on the repertory of available actions at a given time, and how well they have been learned. Sartre claims that a man thrown in jail is as free as anyone, for what imprisons him are not the iron bars, but his own interpretation of them as a barrier, and his project of being sad (49). Why not laughter and ecstasy? The answer is that his experience has not prepared him to delight in such a situation. This response would be a *logical*, but not a cortical possibility.

It is easy to see that Sartre's sweeping dictum rides rough-shod over legal and medical distinctions. There are, for example, fairly reliable tests for distinguishing the malingerer, who consciously affects his symptoms, from the hysteric, who acquires them unintentionally, probably by a process of conditioning (50). If Sartre is interpreted literally, both would be malingerers, and should be treated alike. It is equally obvious that Sartre's rigid dictum makes

no allowance for the canalizing of the individual's fears and affections by an environment which he does not choose. A man grows fond of his home town, his resorts, his friends from childhood, without much deliberation, and he comes to love his own child not because of a decision to do so, but because it is something very easy to learn. Volition enters in, of course. Love of the children may conflict with other passions, and parents sometimes successfully efface their love. There is assent, and sometimes a veto, to love.

The thesis of the voluntary character of emotion is not of much use unless some tests of the presence of volition are available. Let us suggest, therefore, that an emotion is voluntary *in one sense* if it is approved by the individual, or his group, and occurs in spite of a strong conflicting motive that is not approved by the individual, or his group. In addition to verbal reports of conflict and determination, muscular tension and other physiological criteria could be specified, and such criteria could be gradually improved to correspond more exactly to ordinary meanings of "voluntary."

Since voluntary responses, in the usual sense, must be conscious, it is clear that many emotions are not voluntary. Clinical and experimental evidence both attest to unconscious emotions, i.e., emotions which are disclosed only in behavior. It will suffice to mention one recent experiment (51). Subjects presented with provocative words, such as "raped" and "bitch," for a fraction of a second too small for recognition, nevertheless showed an emotional response, as measured by the psychogalvanometer. That is, if the word was exposed for only five hundreths of a second, the subject would not be able to recognize it, but this would not prevent the nervous impulses from proceeding to the brain and thence to the autonomic system, producing a marked change in the psychogalvanic response. Thus the subject might report the provocative word "whore" as

"whose," but the psychogalvanic recordings would later show that he had responded, not to "whose," but to "whore." Another interesting finding, altogether in line with expectations, was that the provocative words required a longer time for recognition than did the neutral words, such as "apple" and "broom." The experimenter attributes the delay in recognition to "perceptual defense."

The view that emotion is fairly continuous in waking experience, just as perception, memory and inference are, becomes more plausible when it is remembered that emotion is often out of focus. To say that emotions characterize waking life is to recognize that human life is specifically motivated, that attitudes, either coarse or refined, prevail, that the attitudes have objects known to some degree, and that there is a readiness, vague or well-defined, to respond to these objects, and to respond to our own responses. When an activity becomes habitual or automatic, of course, emotion tends to become marginal, for there is nothing to be concerned about, no occasion for thought or feeling. Yet habits, as James pointed out, exhibit intelligence, and also emotion, as is seen in their resistance to arbitrary or forceful change.

Emotions are present at the beginning of life, as soon as learning patterns and expectations have been formed, but also in the highest levels of creative effort. They also persist as background, or "horizon," or as what is called "mood," coloring other cognitive-affective experiences which are focal or "thematic" at the time.

Human nature, if we disregard its vivid accidents, said Whitehead, (52) and look for what is universal, is the feeling—"Have a care, here is something that matters!" Even the elaborate language of philosophy and imaginative art "enshrines the more primitive meanings."

"Also as disclosure develops, facts disclose themselves

as stages of history. Importance reveals itself as transitions of emotion. My importance is my emotional worth now, embodying in itself derivations from the whole, and from other facts, and embodying in itself reference to future creativity."

9. THE DISORGANIZATION THEORY

We have already alluded to this theory, diametrically opposed to our own view, according to which emotions are disorganized or disruptive states. In a recent issue of the *Psychological Review* appeared a timely and effective criticism of this theory by Robert W. Leeper (53). He was able to show that the leading textbooks have lately defined emotion in such a way that it would obviously be a mark of health and good adjustment not to have any emotions at all. Emotions are something to be outgrown, controlled or suppressed.

Let us, following Leeper, consider a few statements by prominent psychologists upholding the disorganization theory:

"The difference between emotional and unemotional behavior . . . depends on the degree to which the individual keeps his head, i.e., on the degree to which the brainy life of relation dominates the whole activity." If the brain is in the ascendancy, emotion recedes; when the situation gets out of hand, emotion surges up (Robert S. Woodworth).

"When the behavior of the organism becomes disorganized as the result of the occurrence of a situation for which it has no ready response, we may call the disorganization 'emotion,' " (F. Dockeray).

Emotion is an "acute disturbance of the individual as a whole involving behavior, conscious experience and visceral functioning" (P. T. Young). N. L. Munn (54) in his best-selling text accepts Young's definition.

Emotion is, generally speaking, "marked by disorganization of usually integrated behavior patterns" (Boring, E. G., Langfeld, H. S., Weld, H. P.).

Besides these authorities mentioned by Leeper, many others could be cited. For example, a recent text of social psychology (55) states that "the stronger the tension, the stronger the emotional 'tone' of the situation, the less likely that cognitive reorganization will occur." Even Gardiner Murphy, in his fine book, *Personality*, defines emotion as a "disturbed condition, with responses characteristically involving innervation of the autonomic nervous system" (56), yet in another place (57) he disavows the arbitrary separation of feeling and thought which so many textbooks still maintain, and accepts instead the concept of "cognitive-affective activity" ("affect" being about the same as what we have called emotion).

The occurrence of such definitions in so many leading textbooks is significant, for textbooks are supposed to avoid controversial issues and to present so far as possible only well-tested theory and findings. Moreover, the term defined is in common use. The "disorganization theorists" can be expected to apply their definition to what other people call emotions, and to maintain some consistency.

The disorganization theory obviously applies to some emotions, such as paralyzing fear and suffocating rage, but not at all to others. Leeper points out that the same authors who define emotion as disorganization concede, later on, that there are certain emotions, such as amusement, hope, courage, contentment and love, which are not very disruptive, after all, and may be adaptive. Sometimes, after describing all emotions as disruptive, an exception is made of the milder emotions so that, in effect, if an emotion is clearly not disruptive, it is minimized as mild. Reported cases of intense *and* adaptive emotions are not usually considered in this connection, and questions seem to be settled by definition.

Although the disorganization theory is bold and sweeping, "disorganization" is not defined, and there is a tendency to shift from the contention that emotion is a disorganized state to the wholly different contention that emotion disorganizes any other activity that is going on at the time. In the latter case, as Leeper points out, almost any activity could be an emotion, including the most sagacious problem-solving. In the former case, it is naturally very important to know what is meant by disorganization, for what seems disorganized from one point of view may not be so from another. Love, sympathy, ambition, esthetic delight and the pride of the sportsman, may be disruptive, according to certain utilitarian standards, though they are very adaptive and organizing, as far as the individual is concerned. Ecstasy, as Kurt Goldstein (58) says, may appear to be an acute disturbance to the outside observer, though for the person involved it is an experience of "self-realization."

Oddly enough, the disorganization theorists combine their view that emotion is disintegrating with Cannon's evidence to the effect that emotion is highly adaptive in emergencies. In fact, the very emotions they cite as the clearest examples of disorganization—intense fear and rage —are the ones in which Cannon found respiratory, circulatory, digestive and other changes, which release energy, fortify the organism, and clear the decks for supreme efforts of defense or attack. The mobilizing of energy and resources may, of course, miscarry. The strain of the mobilization, as the work of Selye (59) on the "general adaptation syndrome" has particularly emphasized, can in some cases injure or destroy the organism. This phenomenon is certainly important but it lends no support to the disorganization theory, for no one would deny that emotion is *often* unadaptive. We are arguing against the position that it *always* is.

A good example of the way the disorganization theory attempts to deal with the emergency function of emotions

is furnished by P. T. Young's book, *Motivation of Behavior* (60). Young illustrates the reserves of energy the individual can draw on in an emergency by telling the story, borrowed from Cannon, of the heroic exploits of John Coulter. A member of the Lewis-Clark Oregon expedition, Coulter was captured by Indians, and given the chance to save his scalp and life by outrunning a whole company of Indian braves, armed with spears. The report says: "He ran with all the speed that nature, excited to the utmost, could give; fear and hope lent a supernatural vigor to his limbs, and the rapidity of his flight astonished himself." When an Indian lunged at him, he seized the menacing spear, killed the savage and appropriated his blanket. When the whole pack of warriors was in full cry close behind him, he plunged into a stream, and came up under a beaver house where he hid himself from his pursuers. Fearing that the Indians would block the one pass through the mountains, he scaled a high and perilous peak, and made his way along a plain of 300 miles, living on roots and bark, and protecting his nakedness against the cold with the blanket he had seized from the dead Indian. Traveling by day and night he finally arrived at the distant fort and safety.

"The whole affair," the account concludes, "is a fine example of the quick and ready thoughtfulness and presence of mind in a desperate situation, and the power of endurance, which characterized the western pioneer."

How can the disorganization theory explain such organization and efficiency clearly inspired by strong fear? Young states that "the internal organic changes which enabled Coulter to escape with his life from the Indians were highly serviceable," but instead of concluding that at least in this case emotion was adaptive, Young insists, with pointed irrelevance, that the changes which enabled Coulter to survive "would be disintegrating if his goal were to give a lecture, play a concert, or write a scientific book" (61).

He also argues that Coulter could not have been motivated by fear. Why? Because his responses were adaptive. This man, unarmed, without food, clothing or shelter, pursued by infuriated Indians, and for weeks in imminent danger of torture and death, was not afraid, but only motivated to escape.

In his later book, *Emotions in Man and Animals*, (62) Young makes a heroic effort to harmonize his definition of emotion as "an acute disturbance" or disintegration with the obvious purposefulness of emotional behavior. He admits that "there are persistent, purposive activities which arise during the emotional upset and which are part of the emotional behavior. Thus, fear is associated with impulses to escape, anger with aggressive attack, sexual emotion with fondling and caressing. Inasmuch as these purposive activities are integrated, they cannot be components of *emotion* —emotion being always disruptive—but they are part of *emotional behavior*. Thus, emotional behavior includes both integrated components and signs of disruption."

"Emotional behavior" is thus distinguished by purposive, well-integrated activities, but in so far as it consists of emotion, it is just the reverse, namely, disruptive. Coulter's emotional behavior was highly adaptive, but in so far as he had an emotion of fear, his behavior was necessarily disorganized. In general, the most successful escapes, offensives and love-making are regularly accompanied by the emotions of fear, anger and love, which disrupt them. Leeper is right in calling this an amazing view.

In replying to Leeper and other critics, Young (63) unfortunately does little more than restate his position. He makes no effort to relate his theory of emotion with his fine experimental work, mentioned in Section 3, and with his espousal of Tolman's "expectancy" and the theory of functional autonomy. This experimental work seems to point to quite a different theory of emotion.

Evidently the issue we are discussing is not just a verbal one. Along with the disorganization theory goes the insistence that what are usually called emotions should be outgrown, controlled or restrained, while little is said on the crucial subject of the cultivation and retraining of the emotions. The disorganization theory is also important because it gives support to other tendencies in psychology, and related fields, which would discover in human nature a permanent core of irrationality. Let us take one example —the psychological study of attitudes.

10. A NOTE ON PRESTIGE AND RATIONALITY

Studies of attitudes and prestige suggestion are usually designed to show that judgment is distorted by these factors. If distortion does not occur the findings are regarded as negative. Attitudes, especially when negative, are often regarded as prejudices because, as one psychologist (64) puts it, attitudes toward nations, institutions, professions, races and the like, "lead us to prejudge an issue." Whether negative or positive, attitudes are thought to be susceptible to change by extraneous factors. Thus, in prestige studies, a series of passages may be presented to the subjects, who are required to rate them for literary style, soundness of thought, and so on. When the names of famous or infamous authors are affixed to the passages, or different authorship is assigned, the subjects often change their ratings—their valuations, and the conclusion drawn is that attitudes have been modified or reversed without rhyme or reason.

In a penetrating article, S. E. Asch (65) points out that the assumption invariably made in investigation of prestige is that "*an unchanged object of judgment undergoes change of evaluation.*" A subject, for example, gave a low rating to the labor leader, Harry Bridges, and to a passage about capitalism, when it was attributed to Bridges, but he

later rated the passage very high when it was attributed to Eric Johnston. Here it is assumed that the object of the judgment, the passage about capitalism, remains the same while the valuation of it is completely reversed, that the subject changes his rating regardless of the passage quoted.

It is this assumption that Asch challenges. He argues convincingly that the object of the judgment also undergoes a change. In the above illustration, the statements about capitalism will mean one thing when expressed by Bridges and another, if expressed by Johnston. Suppose, for example, that one statement had been: "Laissez-faire capitalism and monopoly capitalism have both proved their inadequacy." The two men in question would hardly mean the same thing by such an assertion, and the subject would be right in interpreting the meaning in the light of what he knows about their contrasting viewpoints. When the author assigned is Bridges the object he is asked to evaluate is the class of statement S_1, S_2, . . . S_n-as-expressed-by-Bridges. When the author assigned is Johnston he is asked to evaluate quite a different class of statements, namely S_1, S_2, . . . S_n-as-expressed-by-Johnston.

There need be nothing irrational, then, in a subject changing his evaluation of a quotation when it is first attributed to one author, and then to another, when both or one only are known to him. In fact, in many cases, it would be a little odd if he didn't. Proof that people shift their attitudes blindly at the behest of "emotional bias" is, therefore, not forthcoming.

The facts of "prestige suggestion" are perfectly clear, and it is only a question of what they mean. Here is a college sophomore who gives a low rating to a quotation, when its authorship is not divulged, and abruptly shifts to a high rating when the passage is attributed to Robert Louis Stevenson. How is this to be explained? There are three possibilities. (1) The subject has such an "emotional

bias" for Stevenson that he automatically gives a high rating to anything supposed to have been written by him, irrespective of its merits. A very simple conditioning process has connected the word-stimulus "Robert Louis Stevenson" with the response "good style" so tenaciously that the occurrence of the former is enough to evoke the latter, no matter what quotation is ascribed to Robert Louis Stevenson.

Another possibility is that (2) the subject has a close acquaintance with the author and has learned, or learned to suspect that passages isolated from his work acquire more significance when their context is supplied. He knows what Stevenson would do with such a passage, how it might fit into a story. He knows it in the sense that given time, and a story of Stevenson to refer to, he could explain. The passage, once its authorship is known, is not an isolated passage. It is a part of past, or possible, experience of a kind that he has found good, and looking at the fragment again he may be able to see things he could not have seen before. For now he knows when and where its author lived, and what kind of effects he tried to produce, and such facts and experiences enable him, it may be, to make a fresh interpretation. Similarly, we often hear a few bars of music and can make nothing of it until it suddenly occurs to us that it is Ravel! Or, we come into the theatre late and cannot understand what is going on until, gradually, the context supplies the meaning and the plot begins to unfold.

There is another possibility. (3) The sophomore who changes his evaluation of the passage after learning that it is by Robert Louis Stevenson knows this author only by reputation and is, in any case, very doubtful and apologetic about his own judgment. Giving his evaluation means for him guessing what the critics would say. For such a subject the change of evaluation would be very reasonable. When

an author of repute is assigned to the passage he knows at once what to say, and though slavish, there is nothing irrational about his attitude. His is an attitude very common among students, especially when esthetic questions are asked. Wertheimer once said that most esthetic tests given to our college students are really "prestige" studies—guessing games.

We have outlined three possibilities, the first usually taken for granted, the latter two, almost always neglected. For actual reports of how subjects explained their shifts of evaluation the reader is referred to articles by Asch, especially to the one already cited (66). His statement at the end of this article on the importance of the issue for social psychology, and on the drastic conclusions drawn from prestige studies, is arresting:

"We have examined an experimental procedure in social psychology that has served as the basis for far-reaching conclusions concerning the processes of evaluation. The results have appeared to confirm the proposition that social judgment and action are arbitrarily established, and that they can be manipulated at will. It was further concluded, at least implicitly, that this formulation is generally valid for social processes. The formation and change of political, aesthetic, and moral evaluations have been accordingly treated almost exclusively as an expression of blind bias. Changes of evaluation became synonymous with the manipulation of evaluations and the formation of beliefs and attitudes was equated to a process of 'uncritical acceptance' of beliefs and attitudes."

In view of the vast amount of attention that social psychology gives to suggestibility, prestige effects, shifts of attitude, and propaganda, and the penchant for discovering the irrational everywhere, this statement does not seem exaggerated. Asch's work paves the way for a thoroughgoing reconsideration and reinterpretation of the facts. It

is already pretty clear that the conclusion that attitudes are formed and changed arbitrarily, without any reason, has not been proved, for there are other explanations of the results, apparently more plausible, which have only begun to be tested.

It is perhaps wise to add a note of warning. To deny that emotions and attitudes are essentially non-rational or irrational is not to say that they are always rational and adaptive, or that they are equally so. Emotions (and also attitudes), we have argued, include a cognitive component, and an expectation or readiness to act; their rationality and adaptive value depends on the adequacy of these two components in the given situation. The efficiency of emotions also depends on the feeling and attitude involved, but these seem to be determined mainly by the other two components. That is, the forseeing that an object promises good or ill and the knowing, or not, how to deal with it, determines the attitude toward it, and also the feeling. We conclude, therefore, in the light of a rather extended discussion, that the rationality of emotions depends on the adequacy of the component knowing and know-how. Adequacy, of course, implies motor skill, sensitivity to relevant facts and discrimination of the more important ones. The adequacy which defines rationality is a limited ideal usually restricted to intellectual scenes and to the articulation of social situations. It is comprised within the wider norm of adaption, or fulfillment of needs, which embraces numerous degrees and kinds. The kind and amount of adaptiveness implied when we say that emotions are rational should be clear in various contexts.

III

ETHICS AND THE EMOTIONS

11. THE EMOTIVE THEORY OF ETHICS

THIS THEORY introduces a sharp cleavage between belief and attitude, between knowledge and emotion. Valued judgments are held to *express* attitudes, or emotions, but to say nothing which could be true or false. They are like the exclamations "hurrah" or "alas."

The origin of this theory is interesting. In 1903, in his *Principia Ethica*, G. E. Moore contended that naturalistic ethics must be rejected because it involves the "naturalistic fallacy." This fallacy consists in identifying the good, or value, with some natural object. Whether the good is defined as the greatest pleasure of the greatest number, the satisfaction of interest or the main direction of evolution or progress, the same logical blunder is apparent. Value is identified with non-value, with something other than what it is. If "good" meant the same as "pleasure," then to say that "the good is pleasure" would convey no more information than "the good is good," or "pleasure is pleasure." Moore concluded that the good is a simple indefinable quality, like blue, and that all forms of naturalistic ethics are fallacious. This contention at once threw the theory of meaning and the theory of definition into the cauldron of philosophical dispute.

One answer to Moore was that the utilitarian definition —the good is the greatest pleasure of the greatest number —does not identify *what ought to be* with *what is*, but with an ideal possibility. Naturalistic definitions of the good specify an optimum condition which is never completely realized.

In 1923 Ogden and Richards, in their influential book, *The Meaning of Meaning*, met the difficulty Moore had pointed out by distinguishing between referential terms and emotive terms. The former describe or symbolize a referent, whereas the latter express the attitude of the speaker, the attitude to the referent, and also promote effects. Since value terms are classed as emotive, they do not refer to natural qualities, or to qualities of any kind, and cannot be defined as are descriptive terms. The difficulty of having to define them thus disappears.

Ayer (67) in his *Language, Truth and Logic* (1936), develops the emotive doctrine in a brief and provocative manner. Ethical statements, such as "Stealing money is wrong," are said to be purely emotive. They have no factual meaning, and hence are neither true nor false, nor verifiable. You might as well cry "hurrah" or "alas." For when I say "Stealing is wrong" I do not refer to any fact that could be verified. I do not even assert that my attitude is one of disapproval; I merely "evince" this attitude. Thus, if someone replied, "No, stealing is just restitution," he would not be contradicting me, but merely evincing a different attitude. "So that," Ayer argues, "there is plainly no sense in asking which of us is right" (68).

Ethical assertions can have meaning, however, in so far as they embody empirical assertions. Thus, "You hit that child and it was wrong" has factual meaning, but what it means is only "You hit that child." The rest of the sentence could have been conveyed just as well by a look, or a tone, of horror. And ethical statements can also have meaning if they merely state that certain practices are disapproved by a certain community, for whether stealing, for example, is factually disapproved is something that could be verified.

Ayer's theory is intellectualistic and oversimplified. Strictly speaking, only statements can be true or false, but gestures, nods, and looks of horror, are practically equiva-

lent to statements in many contexts. From a behavioristic point of view it would make little difference whether one warns a boatman of the rapids ahead:

By appropriate gestures,
By advice that he ought to turn back or
By a statement to the effect that there are dangerous rapids ahead.

Thus the fact that gestures can be substituted for ethical statements does not mean that they are necessarily unverifiable or meaningless, for gestures can also be substituted for strictly factual assertions, when a suitable context is given.

Ayer's oversimplification can also be seen in his choice of examples. The distinctive form of ethical statements is assumed to be "A is right" and "A is wrong," for when the ethical statement takes a hypothetical form it is said to be, at most, only partly ethical. Only the part of it which is categorical is really ethical. This amounts to a very artificial restriction of the range of ethical statements. And there is another objection to Ayer's examples: "Stealing is wrong" appears to be a simple categorical statement, but it is neither as simple nor as categorical as it looks. When it is addressed to adults, who do not happen to be in an ethics class, it is interesting to note that an argument commonly ensues. The man so addressed says: "But I didn't steal anything," or "I resent that, they have stolen nothing," or "He was justified because he was hungry," or "Why did you say that? What do you mean to imply?" And if the statement is addressed to children, it will also turn out to be complex and context-bound, involving at different ages, as Piaget has pointed out, diverse attitudes toward parents, teachers and consequences.

It is false abstraction to take "A is wrong" or "You ought not do A" as the finished form of the ethical statement, because when people make a statement of the kind, its justification is generally understood, or they are asked

to explain. A pediatrician may advise parents as follows: "You *ought* not to scold that child," and parents have reasons for accepting the pediatrician's advice. But if they ask him for an explanation he is apt to say something like this: "Your child has a reading disability, and a great deal of clinical experience has shown that scolding and punishment exasperate such a disability." Here the ethical expression is replaced by a factual one, which serves as explanation or justification. Thus when the doctor tells the patient he *should* not have cortisone, and the patient asks why, the answer might be: "You have a gastric ulcer, and cortisone may cause perforation." There is no essential difference between such medical examples, and the ones that are usually given in ethical discussions, except that the factual statement which replaces the ethical one is clearer and more convincing.

But the "ought" and the "ought not" are never self-sufficient. Even if a mother tells her 18 year old daughter that she *ought* to be home by 11 P.M., she has to be prepared to put up an argument, to replace the "ought" with some factual statement, however absurd, for she cannot go on saying "ought," "ought," and "ought." The "ought," then, is not simply a blank fiat, and when the expression is used, a factual explanation is understood, or called for. People have their reasons, germane to the subject, as William James said, however bad they may be (see Section 10).

But the reasons for ethical judgments, according to Stevenson (69), another emotive theorist, are psychological, never logical. This is puzzling, for he admits that we can construct ethical syllogisms with ethical premises and ethical conclusions. Consider the example:

If the best evidence at a given time indicated that a certain act A is likely to result in more satisfaction of needs than any other, then A is the right act to perform. But the

evidence does point this way, and therefore, A is the thing to do.

What is wrong with an argument of this form? Stevenson says that its force would be psychological, not logical, because "the acceptance of the conclusion would depend on that of the premises," and "the premises will not be guaranteed by logic alone" (70). But of course this is true of all arguments except those of formal logic and perhaps mathematics. Perhaps he means that we must establish the truth of the premises, and that in the case of ethical premises this cannot be done. These premises have psychological effects, they change people's attitudes, but not logically, not in a rational manner. The answer to the contentions has already been suggested. Ethical statements have psychological effects but so do factual ones. They appear to be confirmable or refutable when expanded into factual assertions.

Stevenson also argues (71) that "there are conceivable cases in which no set of reasons, numerous though they may be," would convince every single person of the truth of the premises of an ethical argument. If "conceivable" here means "logically possible," then the answer is that the same is true of arguments throughout the social sciences. Evidently he means, not "logically possible," but "plausible." He devotes much time and care to the elaboration of plausible cases of ultimate and incurable ethical differences, but the task is frightfully complex, and it cannot be said that he has succeeded.

The view that ethical statements are factually meaningless is supported by other arguments. Ayer contends that ethical statements have, in differing degrees, the effect of commands, and that commands are neither true nor false. The first point is obvious. Ethical statements have the effect of commands, but so do indicative statements, on

many occasions. In fact, we shall argue that an indicative statement practically equivalent to a command is generally available, and that commands thus *could be* avoided altogether. As a matter of fact, some people *do* avoid commands, even when speaking to children, and get things done by explanatory statements.

Practical equivalents for commands can be found, but in one respect they are never exact equivalents. If you tell a man that honesty is the best policy, or the most expedient policy, it is appropriate for him to reply "That is true," or "That is false." But if you give the command "Tell the truth," neither reply would be appropriate. This is undoubtedly a sound behavioral difference between the indicative and imperative forms, but since it seems possible to find indicative statements which would produce all the other effects that are produced by commands, it is doubtful that the distinction has much practical importance. Commands are not themselves true nor false, but they can be replaced by explanatory factual statements which are. Although they are avoidable, commands are very useful. They are brief and economical, and eliminate the necessity of explaining oneself, which is often troublesome or difficult, and sometimes embarrassing. On the other hand, commands are essentially arbitrary and arrogant, when not preceded by factual agreement as to the facts. It is understandable that modern progressive education should have substituted explanation for imperatives. As science and administration advance we can expect fewer commands, ethical or otherwise, and more communication.

What we suggest, therefore, is that imperatives are replaceable by a set of indicative sentences which the subject, of course, may not know, and might in extreme cases, require a long analysis to discover. Or, conversely, the set of indicative sentences is a long way of saying what a brief command can suggest when the context is understood.

This way of dealing with imperatives is presented only as a suggestion. A few philosophers, beginning with Bernard Bolzano (72) have recognized that non-indicative statements can be interpreted, in a sense, as indicatives. Recently several logicians have argued that though imperatives are neither true nor false, they can, like indicatives, be subjected to logical treatment. Jørgen Jørgensen (73) for example, holds that "Peter, close that door," includes not only a command, the imperative factor, but also the description of the theme of the command, "Peter closes that door." Since statements of this kind are indicative, they can be manipulated in logical systems, and since imperatives correspond to them, imperatives are also subject to logical treatment.

Various considerations thus indicate that what is called "emotive meaning" differs from empirical meaning, not diametrically, but only in degree and emphasis. If ethical terms, which are said to be emotive, are artificially separated from their natural contexts, it may indeed seem that they are mere expressions of blind or wilful feeling. If they are restored to their natural setting, however, their descriptive meaning becomes quite apparent. Suppose a man says to his son "Be honest" or "You ought to be honest." Taken by themselves, as is the custom in many ethical discussions, these expressions will seem arbitrary and fiat-like. But this is to tear an episode out of the story. The story began very early in the boy's life. He heard people praise honesty and condemn dishonesty on numerous occasions, and he himself tried out both. He was praised for the one and got into trouble because of the other, but perhaps not always. One must also remember that the situation in which the father advises honesty is one which is relevant to such advice. Suppose that the boy is being entrusted with money and the temptations are high. Under these circumstances a few words, not very descriptive in themselves, may come to

have, *with*, or *in connection with*, past experiences and future conjectures, a great deal of factual meaning. "Be honest" and "You should be honest" are thus elliptical expressions ("*mitbedeutende Ausdrücke*—A. Marty"). To determine meaning one must study biographies.

If the project of separating "emotive meaning" from empirical meaning runs into increasing difficulties, the attempt to define empirical or factual meaning, in such a way as to exclude all emotive meanings, has fared no better. In the first edition of his *Language, Truth and Logic* (1936), Ayer wisely rejected "*complete* verifiability" as a test of empirical meaning for, on this test, even scientific laws would have no meaning. He adopted instead a less restrictive form of the verifiability principle, namely: A statement has factual meaning provided that "some experiential propositions can be deduced from it in conjunction with certain other premises without being deducible from those other premises alone" (74). But in the second edition, 10 years later, he admits that on this criterion, any statement is meaningful, including the "emotive" statements of moralists, poets and metaphysicians, which were to have been disqualified. For take the statement "Stealing is wrong," which Ayer says is unverifiable and meaningless, and combine it with another premise such as, "If stealing is wrong, there are now thieves in this jail" (to use a silly example), and one can at once deduce the factual statement, "There are now thieves in this jail." Thus "Stealing is wrong" is partially verifiable and hence meaningful, according to Ayer's own definition. His revision of his definition in the second edition did not help matters, but led to new difficulties.

It appears that other attempts to define "empirical," in contradistinction to "emotive" meaning, have been unsuccessful up to date (75). Suppose, for example, that a dispositional trait, such as resentment, is to be defined *opera-*

tionally. A very simple definition would be: "A subject is resentful *means* If the subject is confronted by certain test situations, he reacts with angry outbursts, or attacks on certain people, etc., and with increased heart-rate, rapid breathing, etc." Apart from other difficulties, there is one fatal flaw in this type of definition. Carnap (76) pointed out that in relevant logical systems, the conditional (If A, then B) is true whenever the If-clause is false. Thus any statement of the type would be true, however absurd, if we only refrain from confronting the subject with the test situations.

Because of this difficulty in constructing operational definitions Carnap, in 1936, made a new approach to the problem of demarcating empirical meaning, or empirical language. Instead of definitions, he proposed *partial* definitions, or what he called "reduction sentences." We do not need to say, as in the above example, that "A subject is resentful *means* If he is confronted with certain test situations, he reacts with angry outbursts, etc., etc." We can instead *introduce* the term "resentment" into a language by a reduction statement, such as: "If a subject is confronted with certain test situations, then he can be said to be resentful when the tests are positive." Unfortunately, this formula assigns meaning to the term "resentful" *only* as applied to subjects who are being tested at the time, but not at other times, nor to other subjects. This method, however, is free from the logical absurdity, mentioned above, which seems to afflict operational *definitions*.

In view of the difficulties, both logical and practical, of supplying operational definitions of emotions and abilities, and other dispositional states, there is a special advantage in adopting a *realistic* position. We have already defined emotion as involving feeling, attitude, cognition and expectation, and hence cerebral, hypothalamic, autonomic and other physiological events as well. But we have not pre-

tended to give an exhaustive definition, nor to include in our description *all* that is essential to emotion, for much is still to be learned. We claim only that the four factors are necessary, not that they are sufficient to emotion. We do not define emotion in terms of function alone, but in terms of structure and function, leaving the facts of their interdependence to be determined by step-wise empirical methods. We do not define emotion in terms of testability, but in terms of observation and inference as to unobserved structures. Room is left for future findings and more adequate theories. We say simply that the term "emotion" applies when certain behavior and physiological conditions obtain, and we reserve our account of tests and procedures used to a separate paragraph where they can be criticised independently, and without imperilling the meaning of the term under discussion.

The realist accepts his subject-matter as an objective process which is not exhausted by its effects on selected observers and apparatus, and assigns to it some traits of its own, whereas the operationalists tend to confine meaning to operations,—restricting intelligence, for example, to what is shown by standard tests (77). Even the logical positivist, Felix Kaufmann, (78) saw the advantage of realism. For the realist, he pointed out, the world is open, not closed off by definition. Positivism, with its operational definitions, he says, sets up "a rigid, closed system of concepts based upon present scientific results, and every extension of empirical knowledge requires a transformation of the system. Realism, on the contrary, operates with a system containing countless empty places, which future investigation will fill in, but never exhaustively."

12. DISAGREEMENT IN BELIEFS AND DISAGREEMENT IN ATTITUDES

The two kinds of disagreement are very sharply contrasted by Stevenson. Clashing beliefs, since they involve only matters of fact, can be settled by ordinary scientific methods. With regard to disagreements in attitude a distinction is made. Disagreements of attitude which are based on belief are also resolvable by ordinary scientific methods; but there are also, or *may be*, Stevenson says, disagreements in attitude which are *not* based on any differences of belief, and these could never be resolved by science or any other rational method. Stevenson thus asserts, or sometimes asserts, that there are ethical disputes which will resist a rational settlement, no matter how far science, administration and therapy may advance. In these cases the only useful method would be "persuasion," which seems to be a kind of deception.

Stevenson supports his view, which has an awkward resemblance to certain doctrines of the social-Darwinists and apologists for war, mainly by plausible examples. Whether wages in a certain plant are relatively low, he suggests, could be determined by a statistical study, but whether they *should be* higher is not a question within the province of science. Of course, it may be that the attitudes of the parties to such a dispute are based on divergent beliefs. One party may hold that the wages, though relatively low, are still high enough to maintain an approved standard of living, but the other party may be able to convince him that this is, in fact, not the case, with the result that the first party changes his attitude, and the disagreement is resolved. But this is only possible when attitudes are based on beliefs, which is not always the case.

"It is *logically possible*, at least," says Stevenson (79) "that two men should continue to disagree in attitude even

though they had all their beliefs in common, and even though neither had made any logical or inductive error, or omitted any relevant evidence. Differences in temperament, or in early training, or in social status, might make men retain different attitudes though both were possessed of complete scientific truth. Whether this *logical possibility* is also an empirical likelihood I shall not presume to say; . . ."

We are obliged to disagree with this studious writer in a number of respects: 1. He is right in saying that it is "logically possible" that there are blind, ineradicable disagreements, but this is also true of any statement which does not contradict itself, and it is hard to see what follows from it. Such disagreements are also logically possible in science. 2. Evidently what he means is that the existence of such disagreements does not contradict any known fact. But even though this were true, it does not seem very important. The existence of ineradicable disagreements in *beliefs* may not contradict any known fact either. "Contradict" is a strong word.

It is pretty clear from many of his illustrations that Stevenson, in spite of the above disavowal, does hold that his view about disagreements is an empirical likelihood. Why otherwise go to so much trouble to present concrete instances in which it might seem plausible to suppose that there are disputes incapable of rational settlement. It is the empirical likelihood of his view that we shall now discuss. 3. There has been much progress in the perfecting of techniques for resolving differences due to diverse temperament, training and social status, and no special reasons are given for supposing that in any significantly large area of ethics further progress is doomed to failure. 4. Stevenson assumes that blind ineradicable bias not only occurs, but is fairly typical of human beings, for otherwise he would not propose a new basis for ethics. He assumes that there are non-cognitive attitudes, i.e., cases of being for or against

without any reason at all, for if there were a reason it *could be* argued and adjusted. His assumption may be true in some degree, but no evidence is given for supposing that it is typical or very important. The opposite assumption is made by education, psychotherapy and social work.

The role of the cognitive factor in attitude, or emotion, deserves a special comment, because it is so often overlooked. It is certain that agreement in labor disputes could be more quickly reached if only employers had a sympathetic understanding of the problems and needs of the worker, or if they had as much at the beginning, as at the end, of the negotiations. The sympathy would be an attitude, but also knowledge—the kind of knowledge that comes from avid perception, and living with and sharing. Emotions, like perceptions, as Brentano pointed out, comprise concrete cognitions which are not usually reported in indicative statements, but which are acted upon. It required all the skill of Zola to portray, in hundreds of pages of *Germinal*, even some of the attitudes of the striking miners.

Beliefs, also may not be fully articulated, whether because they are repressed, or difficult to express, and thus men may appear to agree in belief when, in fact, they do not. Close studies of beliefs and attitudes in industrial conflicts (80) suggest that the sharp separation of the two, though the *attempt* is sometimes useful, is in general very difficult. When the union funds run low attitudes change, but only if this is known or believed, and it is not evident that attitudes ever change without any reason at all. The compromise which settles the strike shows an adjustment of both belief and attitude to the maturing facts. It is true, as Stevenson says, that rhetoric is often used to change attitudes, and that irrelevant and misleading considerations are often brought forward. It is true that people are often tricked, cozened and deceived into a new attitude, but the process, so far as one can see, is ideational, cerebral as well

as hypothalamic. And as for rhetoric, the Aristotelian doctrine still holds. It can deceive but also enlighten. In fact its vivid imagery may confer a kind of instant understanding which is supplied otherwise only by perception and the representative arts.

Feigl (81) also holds that even when there is complete information as to *means*, it remains *possible* that no agreement as to *ends* may be attainable,—a position we have already criticized. Feigl's main argument for the emotive theory, and against any scientific theory of ethics, is that scientific knowledge is not "in a position to furnish directives as to what ought to be done," for it is in fact "value-free" and "value-neutral." This view of science is widespread, and found in the best circles, yet it is puzzling. It cannot mean that scientific knowledge does not distinguish between correct and incorrect procedures, at least in the laboratory, nor that scientists, as scientists, have no predilection in the matter. Thus, for example, theories with many consequences, other things being the same, are recommended over those with only a few.

Science might seem, then, to have its own standards and ends-in-view, but Professor Feigl denies this even as a possibility. Science cannot give directives of any sort because indicative statements never imply imperatives. This argument we have already considered. It does not appear to be a very strong one because, in a working context, an indicative can have the same import, or invoke the same behavior, as an imperative. If nurses are told that if blood is administered to patients without regard to their blood-type some of them will probably die, it is unnecessary to add: "Don't do it."

It is true, of course, that science is used by business and government for all sorts of purposes, good and bad. But it is also unquestionable that modern society has been transformed by indicative statements of scientists, speaking

as scientists. They have set policies and, by showing that they are feasible and desirable, have also determined ends. For it should not be assumed, as John Dewey often pointed out, that ends must pre-exist, science merely furnishing the means, as if, for example, people already love the music of Mozart, and the function of the radio is merely to bring it to them.

The view that science is value-neutral is sometimes upheld by splitting the scientist in two, the scientist as scientist and the scientist as citizen. As scientist he has no concern with values, and does not care whether the company, for its own advantage, shelves his discovery indefinitely, though as a citizen he is moved to protest the unfairness and waste. As a scientist he could ascertain that there was widespread undernourishment in an area of India which could be relieved if government reserves of grain were shipped in, but as a scientist he could not advise that this be done.

Is not this separation a little artificial? The scientist goes on being a citizen. His scientific motivation is like the motivation of other skills he may possess. When he plays chess he sticks to the rules because he wants to win according to the rules. When he conducts experiments he adheres to scientific method, because what he wants is to earn a living, win honors, advance scientific knowledge or improve the human condition, and long training has habituated him to think of scientific method as indispensable, and departure from it immoral. The ethics of the scientist can be conceived as rigorous and austere, but not as self-contained. It is increasingly inculcated in the schools, as the necessary equipment of the citizen. Its specific development hinges on social and technological changes, resources, personnel, scientific interest and imagination at a given time, and is, in short, an executive strand of the general ethos.

To cast the scientist in the limited role of implementing the designs of businessmen and politicians, however worthy

these sometimes are, is to disparage the contributions that scientists have made, as scientists, to technological advance, policy and ideals. It reduces the best minds to mere instrumentalities, passively subservient to the existing authorities. It is what Norbert Wiener once called "the milch cow conception of the scientist."

13. THE SUPPOSED REFUTATION OF NATURALISTIC ETHICS

It should not be supposed that either Professor Feigl or Professor Stevenson has any aversion to scientific ethics. On the contrary, both are devoted to science, and would like to see it extended as far as possible. Stevenson, in fact, goes out of his way to extol the advantages of the view that science is capable, in principle, of resolving all conflicts of attitude. This view would encourage people to inquire patiently into the beliefs and attitudes of others, he says, to subject their own persuasions and preferences to scientific scrutiny, and would discourage irrational methods of settlement, such as misrepresentation, fraud and force. Nor is there any reason to think that Professor Ayer has any objection to naturalistic ethics, if it could be logically maintained. But all three philosophers are convinced by their arguments, such as those given above, or the one to follow, that scientific or naturalistic ethics is untenable.

Ayer (82) rejects the utilitarian definition of "the good" as "the greatest pleasure of the greatest number" on the ground that it would not be self-contradictory to say that something is good but *not* the greatest pleasure of the greatest number. Similarly, he dismisses the definition of "right act" as one which is likely to produce the greatest pleasure of the greatest number on the ground that it would not be contradictory to say that an act was right which was *not* likely to produce this result. All other definitions of "good" and "right" are disqualified in the same way.

At first glance this argument may seem conclusive. If the word defined and the definition are not synonymous, or do not denote the same class, the definition is considered faulty. "A triangle is a three-sided plane closed figure" is a good definition precisely because the word defined and the defining phrase are synonymous. But many useful definitions do not live up to these ideals. For example, our definition of "motivation" at the beginning of the book, as "that part of the cause of behavior which is internal to the organism," is useful as a brief definition. Yet it does not agree entirely with facts, for people recognize (external) incentives, such as an increase in pay, as motivation, and they do so without contradicting themselves. The definition is therefore faulty, and doubtless all definitions of motivation are. But what is done in such cases? Does one try to improve definitions as new facts and insights come in, or does one decide that motivation is a "pseudo-concept" which could not possibly be synonymous with any empirical description? Since the key terms of science, especially the social sciences, are still matters of dispute, it seems a little quixotic to demand perfect definitions in ethics.

Although the emotive theorists have made a vigorous assault on rational ethics, and their views are very influential, they have not succeeded in undermining this ancient ideal. In our opinion they have not even made good their sharp distinction between cognitive and emotive meaning. At a time when educators and therapists are insisting on the importance of cultivating the emotions, and of integrating the emotional life in a rational fashion, they drive a wedge between emotion and reason. At a time when the growing resources of science are making rationality in ethics more and more feasible, they decide that though science can play a part, it can provide no sure foundation. Their views are sharply opposed by John Dewey, (83) who says:

"The hard and fast impassible line which is supposed by some to exist between 'emotive' and 'scientific' language is a reflex of the gap which now exists between the intellectual and the emotional in human relations and activities. The split which exists in present social life between ideas that have *scientific* warrant and uncontrolled emotions that dominate practice, the split between the affectional and the cognitive, is probably one of the chief sources of the maladjustments and unendurable strains from which the world is suffering. . . . We are living in a period in which emotional loyalties and attachments are centered on objects that no longer command that intellectual loyalty which has the sanction of the methods that attain valid conclusions in scientific inquiry, while ideas that have their origin in the rationale of inquiry have not as yet succeeded in acquiring the force that only emotional ardor provides. The *practical* problem that has to be faced is the establishment of cultural conditions that will support the kinds of behavior in which emotions and ideas, desires and appraisals are integrated."

14. HEDONISM AND EUDAEMONISM

Whatever ethics one chooses it is important that it have its foundations in specific human desires and in the agencies for realizing them. Hedonism rightly emphasized pleasure, and utilitarianism, the pleasure of the greatest number. The difficulty always hinged on the pleasure-pain calculus, the problem of comparing and measuring pleasures and pains, and of correlating them with the variety of good things people seek. Bentham had a dream of the philosopher standing beside the legislator, plotting his course on the basis of the greatest pleasure principle. Unfortunately, pleasure is too subjective to furnish a reliable standard. Although the pleasure-pain calculus was an integral part of marginal utility theory in economics, it never played any part in

practice. Indeed, the difficulties of correlating subjective feelings with actual market choices were so great that the attempt was largely abandoned, or became apologetic, at the beginning of the twentieth century (84).

For eudaemonism pleasure is not the good, but only part of the good. It is, as Aristotle said, the accompaniment of wise and fortunate striving, but it is not what men strive for, or should strive for. To pursue pleasure as an end may, in fact, be a good way of missing it. When you regard your friend mainly as a means to your own pleasure, you avoid the risks, but also the rewards, of serious involvement. When subjective feelings become all-absorbing, interest in scientific and artistic objects is probably pale and fluctuating. Eudaemonism, then, has a number of advantages. It recognizes that the intentional objects of human striving are, in point of fact, not pleasures, but pleasurable things. And by identifying the good with voluntary activities and preferred objects, which are publicly observable, it facilitates discovery, measurement and production of the good.

For Plato, as for Aristotle, pleasure is not its own reward, for pleasure, to be pleasure, must be *known,* and no one, as Plato pointed out in the *Philebus,* would care to be an oyster. Pleasures, he argued, acquire cognitive references to the past and the future, and are thus like opinions, either good or bad, correct or erroneous.

Socrates: "And if we see a pleasure or pain which errs in respect of its object, shall we call that right or good, or by any honorable name?"

Protarchus: "Not if the pleasure is mistaken. How could we?"

Socrates: "And surely pleasure often appears to accompany an opinion which is not true, but false?"

Protarchus will admit that opinions may be false, but not pleasures. Socrates then reminds him that pleasures

involve representations, or hopes about the future, which are sometimes fickle and sometimes sound and true, and concludes:

Socrates: "Then upon this view there are false pleasures in the souls of men which are a ludicrous imitation of the true, and there are pains of a similar nature. . . . I mean to say that a man . . . may be pleased about things which neither have nor have ever had any real existence, and, more often than not, are never likely to exist. . . . And may not the same be said about fear and anger and the like; are they not often false?"

Pleasures are true or false, or rather, pleasures turn into emotions such as hope and love which involve or presuppose assertions, or are behaviorally equivalent to assertions. This has been our view all along. In the good, Plato said, pleasure is mixed with wisdom. Thus what men strive for, or want to strive for, is not blank pleasure-checks, but specific activities for which their experience has prepared and predisposed them. To ask an enthusiastic musician whether he would exchange his lot for the greater pleasures of a big business executive, or vice versa, is to ask a rather academic question. The desirability of pleasures is tied up with knowledge and ignorance, with specific habituations and expectations, and depends on the education of the emotions.

15. LOCATING THE PROBLEMS OF ETHICS

The problems of ethics, from one point of view, might be formulated as follows: 1. To determine what people's emotional needs are, what they actually want in the way of clothing, housing, marital relations, entertainment and cultural objects; 2. To determine the most efficient means, in particular countries and localities, of fulfilling these *de facto* needs; 3. To determine how best to increase the number of actual choices people have in the cultivation of needs. And

especially: how to make available for choice the things and activities recommended by experts of various kinds—dieticians, medical men, educators, and the like. This includes, of course, the problem of making available education which trains the individual not merely in knowledge about, but also in responsiveness to literature, music and art; 4. To determine the best techniques, in specific cases, of resolving emotional conflicts of needs, whether they occur within the individual, family or institution, or between classes, parties or nations.

Although ethics is hardly ever understood in this broad sense, but is often restricted at least nowadays to questions of the meaning and interrelation of ethical terms, such as "right" and "good," there is something to be said for the broader conception. In all fields of human activity there is a prevailing disparity, sometimes painful, between *the what is* and *the what ought to be*, and ethical terms are used ubiquitously. In business, law, science, education, art, and in all the turns of family life, procedures and standards are debated. And it is no use saying that these institutions are all concerned merely with *applied* ethics, whereas philosophy is the sole proprietor of *pure* ethics—of the theory of ethics and the analysis of ethical terms. Business and other institutions do not apply the pure analyses of philosophy as physics applies pure mathematics. To a great extent they develop their own principles and analyze their own terms, in the light of practice, law and selected traditions. In other words, everyone not only practices ethics, but becomes a theorist. This is why the philosopher, as a specialist in logic and language, or in the interrelations among various fields of study, can render valuable service.

With regard to what we have called the first and second problem areas of ethics, there is no necessity to exemplify the array of organizations which are now assessing consumer, medical, and even cultural needs, nor the great num-

bers of research groups which are engaged in measuring productive capacity of industries, regions and nations. The technical problems of compiling information and of seeing that it is utilized fall outside our knowledge and the scope of this book, and our concern is merely to suggest where the crucial areas lie. The difference between actual and potential needs and resources is always difficult and important. Often, for example, as in the case of family budget studies, what is measured is only low-income preferences. But this limitation is partly offset by studies of family expenditures in a period of rising income.

What is most important for ethics is not what people want, but what they could want if given fuller opportunities. The "energies of men," William James (85) said, are practically inexhaustible, so that the amount that a man expends in the ordinary round of life is only a small fraction of his potential. Similarly, actual needs fall far short of capacity and of complete realization. What is usually lacking is motivation, opportunity and flexibility. Bertrand Russell has recently repeated the familiar observation that the craving for competitive success is still so deeply ingrained in American life that other needs and fulfillments tend to get stifled. John Dewey continually reminded us that when beliefs and preferences become rigid and sacrosanct intellectual and emotional growth are suspended.

The role of experts in the formation and fulfillment of needs is increasingly important. "People should want something different than they do" has only one sensible interpretation, namely: "Give people sufficient training and opportunity and they will prefer what the specialists think they should prefer." The people are the final judge, for they cannot want what has to be forced upon them and virtue is, by definition, voluntary. Thus democracy is highly permissive of virtue, or full realization, and also of slothfulness. Though remedies may be forcibly applied,

coercion is in theory sporadic and temporary. But the permissive side of democracy is increasingly felt to be hollow and meaningless without the crusading spirit which, advised by democratically selected experts, provides fuller training and wider choices.

16. ETHICAL USE AND TRAINING OF THE EMOTIONS IN EDUCATION

No special argument is required to show that medical, dietary and educational surveys which assess needs and propose measures for transforming practices and valuations are of immense ethical importance. But the success of proposed measures involves emotional assent and adjustment. Progressive education, which has transformed the schools in the past 50 years, could not have prospered as it has without the easy assent of the children. Long before the advent of progressive education it had been noted that children learn their own extra-curricular games, whatever difficulties they present, without apparent difficulty. Thus, as early as 1688, in his *Education of the Daughters*, Fénelon made the following proposal:

"Observe this grand defect in ordinary education—all pleasure is placed on the one side, and pain on the other: the latter is attached to study, the other to play. What then can be expected from a child, but that, in supporting one of these maxims, she will eagerly fly to her amusements? Let us try to invert this order: let us make study agreeable, concealing it under the form of liberty and pleasure . . . everything which can unbend (children's) faculties, produce an agreeable variety, satisfy a curiosity for useful things, and exercise their body in healthful recreations, should be recommended and practiced in their diversions."

Thus, 200 years before the first experimental schools were established in the United States, the root idea of progressive education had already been envisaged: Accept

the growing child as a person in his own right, and not merely as an incomplete adult. Recognize bodily needs, propensities and interests of age-groups. Make curricular subjects extra-curricular, that is, bring the playground into the classroom and give it cultural, humane guidance. Shift from *discipline*, or extrinsic motivation, to *interest*, or intrinsic motivation. Aim to keep the child interested, emotionally absorbed in what he is doing throughout the day.

Dewey's *Democracy and Education* (86), one of the most important books on the philosophy of education ever written, rejects a whole series of intellectualistic dualisms which once dominated educational thinking and practice. Among them are: Ends vs. means, mind vs. body, intellect vs. emotion, interest vs. discipline, intellectual vs. practical studies. Dewey's criticism of the sharp opposition of interest and discipline was especially influential. Rousseau, in his *Emile*, had recommended pure spontaneity, advising against all discipline and habits, whereas Locke had advanced discipline as something valuable in itself. Obviously the fusion and interdependence of the two would have to be worked out experimentally in the laboratory of the modern school.

Since "interest," for Dewey, means "the objective results that are foreseen and wanted" but also "the personal emotional inclination," it is clear that the interest-discipline issue in the schools overlaps the issue with which we are particularly concerned, the supposed opposition of intellect and emotion. Dewey argues forcibly that neither interest and discipline, nor intellect and emotions are separable. The issues are both crucial. The widespread use of art, music, games and play in the modern school, the appeals to imagination and emotion through pictorial material, and dramatizations in which the pupil himself takes part, and the association of school subjects with compelling out-of-school interests, are all predicated on the rejection of

these two dualisms. The modern school seems to assume that emotional interest is the way to the intellect.

The first problem in learning is motivation, for unless that is secured nothing can be done, and if it is, almost anything is possible. And the motivation is not an indiscriminate force, the will to life, self-assertion, curiosity, nor mere biological urges. It is specific interest in what is going on in the classroom, involving attitude and cognitive reference to a particular subject-matter, and specific readinesses, feedback and readjustment. In short, the activation is the complete emotion. The double aspect of motivation—cognitive and emotional, objective and personal, is illustrated, as Dewey points out, by our use of language.

"Such words as aim, intent, end, emphasize the *results* which are striven for; they take for granted the personal attitude of solicitude and attentive eagerness. Such words as interest, affection, concern, motivation, emphasize the bearing of what is foreseen upon the individual's fortunes, and his active desire to secure a possible result. They take for granted the objective changes. But the difference is only one of emphasis; the meaning that is shaded in one set of terms is illuminated in the other" (87).

Recent studies of emotion in the educative process have shown the frequent need of emotional readjustment of school children, and also how much increased motivation can improve school work and even intelligence test scores. C. B. Zachery (88), in *Emotion and Conduct in Adolescence*, describes emotion not as something occasional, but as "intrinsic in every experience, a factor in all conduct." D. A. Prescott (89), in his authoritative volume, *Emotions and the Educative Process*, also emphasizes the continuity of the emotional factor and the dynamic side of learning. Among the questions investigated by Prescott and his Committee were: 1) Has there been a tendency to ignore the role of emotion in the process of education? 2) Should

education concern itself with "the strength and direction of desires developed or inhibited by the educational process?" 3) Has the dispassionate "neutrality," appropriate to scientific observation, been extended to other areas of activity "to the impoverishment of the American youth?" 4) If it should be agreed that education should do more to develop and direct emotion, how can emotion be more accurately identified, measured and oriented?

While Prescott's report concludes cautiously that far more research must be done before definitive answers can be given, the trend of the many-sided agrument establishes, beyond any doubt, the critical importance of the subject. Many questions are raised which cannot be resolved philosophically, but depend largely on situations and personal choice. For example, should education aim to develop all-round emotional sensitivity and discrimination, or a more narrow and intense dedication to ambitions, professions, ideals, causes? And should warm, out-going social responsiveness be encouraged, or the ideal, prevalent in competitive societies, of emotional independence,—self-sufficiency? It is better for curriculum-planners, guidance people and teachers to face and defend their preferences in such matters than to unwittingly impose them on the student.

17. A NOTE ON FREUD AND FATALISM

Educators generally assume that particular conflicts and frustrations of school life are avoidable by better management, and their confidence is based on accumulating evidence. Freudian theorists, on the other hand, maintain that early conflicts of childhood, having sweeping effects on later life, are inevitable. As Anna Freud (90) recently put it:

"Analytic investigation has traced the origin of neurotic disorders to the pathogenic effect of early conflicts. That does not imply that to keep mentally healthy the

child has to be spared these—anyway inevitable experiences. The question of mental health or illness is decided, not by the presence or absence of internal discord, but by the solutions—beneficial or harmful—which the individual adopts to solve the discord."

No one doubts that emotional conflicts of some sort are necessary. Without them life would lose its drama and climax and maturity would never be reached. But the view that there are certain conflicts, such as those arising from toilet training in infancy and the "Oedipus" situation in childhood, which are inevitable, as if rooted in human nature has often been challenged. Anthropologists have shown how much different social patterns can alter the whole picture. Among the Trobriands, to take a single example, pre-nuptial intercourse is exempt from shame and punishment, and sexual development does not run the same course as in Europe and America.

Psychologists, meanwhile have been assessing the validity of various Freudian concepts in the light of objective studies (91), and conducting many experiments on "neurosis" in animals, and even in man (92). These give support to some Freudian doctrines but not, of course, to the inevitability of severe early conflicts in the human species. Clearly unverifiable elements in Freudian theory, such as dream analysis, do not, however, justify the rejection, on the part of some psychologists, of the whole system (93).

Psychotherapists themselves have broken away from Freud in great numbers. S. Ferenczi and Otto Rank developed a therapeutic method in which restructuring of emotional experience takes the place of a doctrinaire search for early memories. Psychoanalysis, thus reoriented and greatly shortened and mitigated, is made a possibility for lower income groups. On the basis of their work Alexander and French (94) have recently criticized the rigidity of Freudian doctrine and recommended short-term situational

analyses. Fromm and Horney also represent counter-Freudian tendencies. The avoidance of protracted search for final causes in infancy is a practical necessity for social work, group analysis, emotional adjustment in the schools, —for personnel management, from the point of view of the employer, and morale-building on the side of the unions. Kurt Lewin (95) has laid down an experimental design for situational analysis where the opposing forces acting on a person (child) at the moment are described from the person's point of view, without need to ferret into the mysterious involvements of infancy.

It is not our purpose at this point to prove anything, but only to indicate, in the panorama of a general argument, that there are alternatives to the Freudian version of "original sin." It is the philosophical aspect of the controversy which interests us at present. Is it true that there are basic emotional conflicts which are ineradicable? A similar question discussed above was whether human nature contains a major part, namely emotion, which is always disruptive and unadaptive. Another question was whether there are basic conflicts of attitudes which it would be *impossible* to resolve in any rational fashion, no matter how far science and administration advanced. It is exceptionally difficult to demonstrate that there are important areas in which science and policy could never effect a solution, and if one argues only that it is logically possible that no solution will be found, then one has said very little. The point seems pretty obvious. We insist on it only because when limits of the kind are set up research and remedy may be discouraged.

18. SYMPATHY AS AN EMOTION AND A VIRTUE

The contention that there are ineradicable defects in human nature always tempts to misanthropy, slothfulness.

It solicits a mood of self-pity or self-indulgence, or leads to a philosophical resignation which stoically tolerates existing evils. The view that human nature is plastic, dynamic and redeemable, which seems to have the support of modern learning theory, encourages ethical pride and enterprise.

The cardinal virtues have both an intellectual side, emphasized by Plato in *Protagoras*, and an emotional aspect, emphasized by St. Francis of Assisi, Rousseau, Schopenhauer and the moral sense philosophers. When attitude and readiness to act are prominent, or extraordinary, and motivation is strong, even wisdom and justice are recognized as emotional states. We speak of a passionate sense of justice, and of serene or steadfast wisdom. And emotion in fact always looms large in virtue, for one must be firm and staunch and have the courage of one's attitudes. Wisdom or justice, which was found to be cowardly, listless or apathetic, would not be regarded as genuine. The same is true of those virtues which are specific to the sciences, the arts and professions, for here too one must be loyal to ideals, or to proven principles and methods through thick and thin, and resent their violation. Conversely, of course, ardor is nothing without its cognitive object.

Sympathy, love and loyalty will have to be discussed in particular, because they are regarded as the most emotional of the virtues, and the least subject to rational controls. For these virtues, it is pointed out, are not voluntary in the sense that justice, honesty and truthfulness are. We do not directly choose our loves and sympathies and loyalties, which often seem to be against our will, and we find it difficult on occasion to justify them objectively. Thus, the direction that sympathy or love takes in any particular case may seem to the public highly arbitrary and capricious, if not entirely irrational.

We shall argue that although these virtues are not the result of direct decisions, but spontaneous and situation-bound, they are still subject to rational controls. In the first place, we do not have to go to the *a priori* extremes of Sartre (See section 8) to recognize that many decisions of the individual sensitize him, in advance, for specific sympathies, loves and loyalties. Secondly, there is always a degree of assent, even when there is a conflict and the individual resists his inclination. And there is always a measure of veto power. The three virtues are acquired in the learning process, and are there susceptible to reinforcement and extinction—to correction and redirection. Moreover, even romantic love, as we shall claim, has its rationale.

Let us begin with sympathy, and with the classical view that sympathy is identification with the sufferer. On this view "A sympathizes with B who is lost in the woods" would mean "A imagines himself in B's position so realistically that he himself experiences B's anxiety and distress." A is able to put himself in B's position, it is held, only because in the past he has been lost in the woods, or has had some similar experience. Sympathy is thus held to result from an "association of ideas." A man who has experienced a certain misfortune, later sees another man in the same situation, and thus in imagination shares his suffering.

There is no doubt that this phenomenon does occur. Some people cannot restrain their tears when they see others crying, even when they do not know the cause. And there is a tendency to feel alarm or tremble when someone screams, even when the scream is a mere cry in the dark and completely unexplained. In fact, not only conditioned motor responses, but also "conditioned sensations," have been produced in the laboratory (96). For example, if the word "Cross," repeatedly presented to subjects for 10 seconds, is always followed by the exposure of the picture of a cross for 4 seconds, subjects eventually see a dim cross

when the word "Cross" is presented without the picture. Such conditioning studies go far to explain common imitative behavior. Feeling pain when one sees another in pain is no mystery.

The only question, then, is how such contagious feelings and responses could have been identified with sympathy. It seems clear that they often occur in the absence of sympathy, and that sympathy often occurs without them. Tears evoked by the sight of tears need not be compassionate, and one can pity a friend in the last stages of consumption without anything of his pain or anguish—perhaps without feeling any pain at all. Schopenhauer reduced all the virtues to pity (*Mitleid*), and he reduced pity to a sense of oneness with others. If we realize that other individuals, like ourselves, are but manifestations of the *one* relentless Will to Life, and overlook phenomenal differences among men, then we will respond to their pain and anguish as to our own. Interpreted strictly, i.e., metaphysically, this theory reduces all pity to self-pity, which is not a virtue at all.

What the identification theory leaves out, as Max Scheler (97) has persuasively argued, is the purposiveness or intentionality of sympathy. To sympathize with a friend who has lost his money is not to *feel with* him in the sense of having the same feelings, but to *understand* intimately how he feels, to wish that the money had not been stolen, and most important, to be ready to give aid and succor. When readiness to help is lacking, we say that the sympathy is not genuine. The tears are crocodile tears, the professed sorrow is sentimental self-indulgence, or philosophical resignation to the poverty and misfortunes of others. The emotion of sympathy, therefore, is not a feeling which *may* prompt us to action, but includes readiness to give relief as an essential phase. If it is a virtue, it also involves some *appraisal* of the genuineness of the distress which is to be relieved, for if a man is too gullible he is

regarded as a fool. The complete emotion, as we have seen, involves "feed-back" and readjustment. Virtue is an emotion about emotions.

Sympathy does not result from a simple conditioning process, but it may arise from a complex one. It doesn't take the little boy long to distinguish between the announcement "You are ill" and the announcement "Mamma is ill." The first means that he goes to bed and associated with this are various expectations. The second means that his mother goes to bed and in this case very different anticipations are aroused. There are forms of approved and disapproved behavior, entailing rewards and punishments. People bring things to his mother, inquiring how she feels and moving about quietly. The little boy may do the same by imitation, a process which experiments by Miller and Dollard (98) have shown to be *basically* the same as conditioning. At least, they easily produced what would be called imitation by ordinary trial and error learning, with rewards reinforcing certain (imitative) responses and not others.

But the little boy's own illness will include something special over and above what is common to other illness situations, namely: his own more or less private feelings and pains. The words used to describe the latter—"*Your* pain"—are similar, but not the same as those used for another person—"*His* pain." We may thus conceive that the little boy, by a process not unlike the differential conditioning of the laboratory, learns to make the distinction between what is called his pain and that other pain which is not his, but is attributed to another person. In the same way, he comes to distinguish between his pain-responses and those of another person, and yet is aware also that they are similar. By some such process, though of course much more complex, he may learn the meaning of the other person's pain. And now he will not merely imitate the

sympathetic behavior of others, but begin to sympathize himself. If there is any reality in this paradigm, conditioning could be the basic process by which sympathy is acquired.

We have already argued, in previous sections, that sympathy, like perception, involves *knowledge by acquaintance* —knowledge which is not duplicated in *knowledge about*, that people learn something new by imaginative participation in the experience of others and that, therefore, things are known through sympathy which could not otherwise be learned. Misery loves company, not because it is lessened by sharing it,—as if extending the misery were something desirable—but because sympathetic friends can understand unhappiness in its concreteness and particularity. A friend in need is not necessarily needy himself, but possesses the immediate knowledge and disposition to help. It is the same with that other kind of sympathy which the Germans call *Mitfreude* (sympathy with joy). A joy unshared is only half a joy because what is needed is a generous friend who is pleased and competent to appraise and explore it with you. His joy however is not yours, but joy *in* yours. Sympathy, like love, is a transpersonal act.

19. THE RATIONALE OF ROMANTIC LOVE

This emotion is a test case for our position because it is, by reputation, so irrational. Yet there is a curious ambivalence in the attitude toward it too. Although it is ridiculed for its exaggerated claims and overwrought attitudes, it is also regarded as the most exciting episode possible and as the crowning glory of life, and the spectacle of it, though repeated thousands of times with only minor variations, seldom wearies. Love is the most important thing in the world, yet love is blind,—or so it is said to be.

The best examples of love are a mother's love for her child and the intense personal love between the sexes. Both

appear to go to extremes. The child, for the mother, is unique, incomparable, irreplaceable. No other child, though it possessed unlimited charms and talents, could be compared, except in unessentials, with her own. There is something about her child, though she cannot name it, which is uniquely precious.

The same gross exaggeration appears in the love of the sexes. When a young man falls in love he invests his love-object with all imaginable merits. She becomes absorbing, priceless, somehow superior to the whole sex, though the blasé world looking on can see nothing unusual in the girl. Surely, it will be said, the world is right and love is blind. Every girl who catches a beam of this common radiance cannot be a paragon superior to all the rest.

A man challenged to justify his amorous choice is always at a loss, since another woman with whom he is not in love, but has all the qualities he mentions, could always be found. It seems to follow that romantic choice is never based on good qualities, that a man does not elect the girl for her excellence. Max Scheler (99) a leading exponent of Franciscanism in ethics, is insistent on this point. Love is not esteem for the good, but a discovery of the *person.* The person of course is seen as beautiful and good at the time, but so are other persons with whom one is not in love. When one is in love the person is also seen as "evolving higher values and enhancements" which are *not* given at the time. Love, therefore, does not pity or seek to improve its object, for she is not conceived as wanting in anything.

As the result of love, however, many fulfillments and enhancements occur, and both parties profit. It is a common observation that people do not know their own worth until they are loved, or until they find, and this is the most valuable experience, as Aristotle saw, that they themselves love. Here the evidence is voluminous and, in part, care-

fully documented. The association of juvenile delinquency and even mental disturbance with lack of parental affection and care is unmistakable. The sense of belongingness (100), of membership no matter what happens, is of the highest importance, as is partly revealed by the record of waif children transplanted to institutions. How primordial the need for love is may be surmised from the old medical dictum that an unloved child dies.

There is a great deal of truth in Scheler's contentions, which though based upon pagan Aristotle are also frequently in opposition, but also a mystical trend which is to be avoided. What needs to be recognized is that the uniqueness of romantic choice is grounded in the uniqueness of concrete and highly motivated perception. Just as one can easily recognize a face that one cannot uniquely describe, so one discovers an incomparable love whose unique qualities cannot be enumerated. The "haecceitas," or thisness, which for Duns Scotus defined uniqueness in general, is really based upon concrete, and partly ineffable, perception. What needs to be recognized also is that romantic, or intense personal love, is concentrated, highly individualized and expert knowing of persons. People in love spend endless hours exploring, with breathless suspense, the finest shades of the other's feelings and opinions, revisiting the past and discovering the future together with inexhaustible curiosity. There can be no question that in the shortest time each becomes a subtle sleuth and expert with regard to that which passionately concerns him.

Four things seem to characterize the knowing which is love. It is highly motivated, has the concreteness of vivid perception (or imagination), is directed upon a single person and is therefore extremely specialized and finally, it knows the person as indistinguishable from his potentialities. Thus while the indifferent world is prone to identify the individual with his actuality, i.e., with those qualities

which he has been able to realize under whatever cold and unfavorable circumstances, love acknowledges what will and could be—the complete man. The question, in all seriousness therefore, is whether it is love which is blind, or the world. In the case of children potentialities are usually stressed. With adults, especially if they happen to belong to underprivileged or pre-literate groups, they are often overlooked or denied. The proof of our question is the performance of human beings under new opportunities. When man-power is plentiful and policies become restrictive, emphasis is placed on human deficit. When men are critically needed, encouragement and training are offered *while* abilities are tested. As a result talents multiply beyond expectation. How far love is a rational and adaptive process is shown in part by research in various fields—infant care, education, marital relations, employment practices, penology, and the like. It is a question of how far potentialities exceed actuality—of the real worth of human beings.

But the object of romantic love, as we have argued, need not possess public qualities superior to the rest of the species. She is absolutely preferred and incomparable, but her superiority is not competitive. As far as the expert personal knowledge of the romantic lover goes she is absolute, but his expert personal knowledge does not extend to other women. He is therefore not in a position to make sweeping comparisons, and if he is wise and polite, he sticks to terms such as "incomparable," or "incomparable so far as he is concerned," which are not invidious.

Love, on the present view, then, is far from being a mere physiological condition, or an "acute disturbance," as the disorganization theory contends, though these are phases of the complete emotion. It does not seem to be a calculation of pleasure either, nor simply a drive to obtain and to secure satisfaction of physiological needs, as the biocentric psychologists maintain. Even the sex life of chim-

panzees seems too complicated to be explained in this way. Nor can we agree with the emotive theorists that "Love is a virtue" merely evinces the speaker's feelings without having any objective meaning.

20. LOYALTY AND PLANNING

Loyalty, like sympathy and love, has been contraposed to reason. The fact that loyalties are frequently narrow and misguided has been used to support the old dichotomy of reason and emotion. Yet mistaken loyalties are probably no more common than what are called errors of reasoning. In any case, both occur and are subject to correction in the process of learning.

What experts advise, especially in the face of the present world-crisis, and the growing interdependence of functions and policies, is the cultivation of wider allegiances. Loyalties to family, friends, institutions, and even to nations, are to be brought under the aegis of overarching responsibilities. The widest loyalty of all would be to the human species, or to the universe, as Josiah Royce proposed. Whereas loyalty to family, friends and professional associates is concrete and intimately percipient, the idea at the base of the wider loyalties is more abstract and intellectual. The frequent force and persistence of these abstract emotions, as in the case of the religious acolyte who leaves his family behind, or the humanitarians who give their life for the cause, may be due to the evocative power of certain concrete examples, images, or symbols which graphically represent the vast or remote ideal.

Loyalty, sympathy and love, are frequently contrasted with the rational conduct of affairs. For Max Scheler, who puts forward the ideal of a "reign of love on earth," the impersonal organization and management of economic production seems to be a rival and hostile enterprise. For the more men are governed in their relations by sympathy and

love, he says, the better world we shall have. Our own view is different in one important respect. Men should not be required to depend on sympathy and love for the essentials of life and a decent standard of living, for these emotions, as we have contended, cannot be demanded, or directed with any assurance or regularity. In fact, we should say that the more a society frees its members from servile dependence on sympathy, love and loyalty, for the necessaries of life, the more advanced it is, so far forth. Love and the other affections, released from required service to other interests, could then increasingly follow their own sincere and spontaneous bent (101).

If these three emotions can have the kind of concrete prescience we have attributed to them, then they need not conflict in any way with the most efficient and broad-scale planning. Indeed, these affections would be essential to efficiency as well as responsibility, and the electorate would be right in demanding evidence, not only of narrow scientific competence on the part of planners, but also of perceptive and informed good will.

The increasing allocation and management of human resources within large-scale plans, which is rendered necessary by the growing specialization and interdependence of functions in modern society, raises a serious problem for ethics, because ethics has usually dealt with restricted interpersonal relations. The return to laissez-faire which is advocated by Professor Hayek, is scarcely a feasible remedy. The problem is rather how to secure control of planning bodies. It is evident that planning on some levels—the family and the school, for example—has become more democratic than ever before. And the brunt of the issue, of course, is in the area of business and government.

Although both government and big business operations are becoming fearfully centralized, vast and remote, democratic controls are also gaining strength. There are tradi-

tions of freedom, the check and balance of organizations, and the rational advantage of mass production at reduced costs and prices. And there is the emotional reinforcement of habits of smooth cooperation—the growing conviction that the civilized way of doing things is also, in the long run, the easiest and most efficient. Such factors, in democratic countries, offset the menace of despotic power. In communist countries and colonial areas, on the other hand, where organizations capable of independence and opposition are weak or non-existent, and emotional habits of free participation and self-restraint have had little time or opportunity to develop, authority tends to be rigid, insensitive, superimposed. But central planning now seems to be unavoidable, even if we are to have a decentralization of authority, and a strengthening of semi-autonomous organizations. The problem is to give the electorate the chance to select a good plan—one which expands opportunities, and thus reduces emotional conflicts and frustration.

21. EMOTIONS AND THE AESTHETIC EXPERIENCE

Since aesthetic theories agree in assigning a dominating role to emotion, it will be necessary to say a word on this subject, to indicate the kind of view we should like to develop if space permitted.

There are the emotions which motivate the artist, or which he wishes to express, and there are the emotions which are portrayed and finally, there are the emotions which are experienced by the observer. The question is *which* emotions, and how they function. There is a kind of romanticism which sees the artist torn by passions which he feels compelled to embody in works of art, or to impart to others. Art, so conceived, becomes an unfoldment of emotional intensities and conflict. In contrast, the classical conception emphasizes restraint, order and harmony in the affective life. The first, Nietzsche called Dionysian art,

typified especially by music, the second, Apollonian art, exemplified by the plastic arts.

The notion that the function of art is to impart the emotions of the artist to the spectator runs through a number of theories. For Tolstoi (102) "there is one indubitable sign distinguishing real art from its counterfeit—namely, the infectiousness of art. . . . The stronger the infection the better is the art, as art. . . . "Art is a language which transmits the feelings, and thereby unites mankind. To us it appears that though art has great social import, the theory of infection is certainly wrong. Literature and other art forms do not superinduce emotion by a kind of ideo-motor action, they portray or represent it. Thus the spectator at a performance of *Macbeth* does not suffer the passions and terrors of a murderer; he enjoys their depiction. In the same way, sad poems do not make us really sad, but aware at a safe distance of the subtle truth of sadness, which, of course, is quite a different thing.

But is there need to labor so obvious a point? When the question is squarely put, almost anyone would agree that the spectator's emotion is not the same as that which is portrayed, but a new emotion through which the portrayed emotion is understood and evaluated. It is this emotional discernment of the depicted joys and sorrows of people in various situations, not the contagious sharing of such feelings, which gives art its social impact. It is the aesthetic understanding, and sympathy in retrospect, with people in similar situations, which binds men together, not the simultaneous incidence of the same emotion.

The theory of empathy is much more plausible. It holds that what is distinctive of aesthetic experience is empathy (*Einfühlung*), the "feeling with" (*Mitfühlung*) or "identification with" (*Einsfühlung*) the presented object. Although the experimental evidence for this theory has not materialized, it has a wide range of credibility. "Identifca-

tion" with dramatic heroes, for example, is often accepted as a fact, and the real question is what it means. It cannot be taken literally, of course, for no one would pay his admission price to undergo, as pointed out, the bloody ambition and terrors of Macbeth. The experience of the spectator is rather in the form of a supposition, viz: Suppose I were Macbeth, though actually I am myself, sitting at a safe distance before a spectacle of murder.

The make-believe character of aesthetic experience is also emphasized by the play theory of art. And no doubt play, or make-believe, which is so prominent in higher animals and emerges so early in human life, is the origin of art. There is general agreement about this, the big problem being the specific nature of play, and of aesthetic play. As we have seen, play cannot be regarded as merely consummatory, for in the primary schools, for example, it is one of the best methods of instruction. Play is not only or always good in itself, but also instrumental to new achievements and fruitions, and the same is true, as Dewey has effectively argued, of aesthetic experience. The difficulty of separating the best art from the institutional life, of which it is an expression and a consecration, is by itself a powerful argument against the extent and importance of art for art's sake.

Openly, or between the lines, even the ivory-tower theorists admit that increased acquaintance and study of art is instrumental to deeper fruitions, wider horizons, finer definition and understanding, not only of art but of the world. For how else could the artist be regarded as a superior being, who has compared and knows that his way of life is the best—who knows that his own aesthetic emotions are better than those of other folks. Thus Clive Bell (103) cannot refrain from the supposition that the delight in "significant form as an end in itself" is also a revelation of "essential reality, of the God in everything, of the uni-

versal in the particular, of the all-prevading rhythm." The "aesthetic emotion," which was said to be sequestered and without effect on ordinary life, is now admitted to be the key to an understanding of the world.

Clive Bell, however, seems to be on solid ground when he argues that the aesthetic response is always an emotion of a special kind. But what is the "aesthetic emotion?" Unfortunately, he identifies it only as the response to "significant form," which he illustrates by selected examples, but does not define.

The view we wish to recommend is that the aesthetic emotion is not something remote and detached from ordinary life. If art is not always a representation it is at least, as Aristotle said, always a "production," implying an artificer with skills and intentions. We understand the representation as a representation of the world, having some claim to truth or validity, no matter how selective and strange it may be. And we understand "pure form," if there is such a thing, as the production of some artificer, known or unknown, who aimed at certain effects, working with tools provided by his economy, and within a certain culture and tradition. For if we do not *intend* the design as a production we do not understand it as art. It may be a crude, hackneyed copy which happens to catch our ignorant fancy at the moment, or it may be an accident of nature which pleases us only because of its resemblance, of which we are unaware, to some cherished, but unaesthetic, object of the past. In such cases we come to recognize that there has been a mistake, and the experience cannot be repeated.

The purest forms we have, moreover, are derived from ordinary perceptions. Here they acquire rich emotional associations which are often retained when they are reproduced or recombined in artistic productions. Poets and art critics supply innumerable illustrations of the fusion of abstract forms with associated ideas and feelings. Psycholo-

gists have shown that abstract forms and bits of color are reeking with meanings. Consider, for example, the rich emotional associations of the Rorschach ink-blots, and the whole dramas which unfold when subjects in psychological experiments are presented with little geometrical figures in motion. The French psychologist, A. E. Michotte (104) used only two (or sometimes three) little colored rectangles, and moved them at different speeds in relation to each other. This would seem to be "pure form" with a vengeance, yet Michotte reported that his subjects, watching the two rectangles *A* and *B*, were not content to say that they saw "*A* pushing *B*," for example, but were disposed to interpret the rectangles as persons. One such interpretation was "*A* joins *B*, then they fall out, have a quarrel, and *B* goes off by himself." By changing speeds and relative positions of the little rectangles, different types of interpretations could be produced and, to a certain extent, predicted.

There are quite a few experiments of this kind, and much evidence from other sources, which show that the most abstract patterns are infused with emotional meanings, while the evidence that there are exceptional cases of pure form, and that these alone afford genuine aesthetic emotions, is hard to find.

Any satisfactory definition of the aesthetic emotion would have to borrow from a number of divergent theories. It is necessary, as we have seen, to recognize the importance of play or make-believe, empathy, communication, psychic distance, and the social source and import of art. Authorities have also emphasized the concrete, pictorial or iconic nature of the language of art, and have contrasted it with the highly abstract symbols of mathematics and the natural sciences. Both languages—that of art and that of science—achieve extraordinary incisiveness and economy, though in different ways, and the pleasure that they afford no doubt

owes much to the surprising and elegant brevity of expression. Other writers have seen additional parallels between art and science. Professor Robert Woodworth, for example, has noted the problem-solving feature of aesthetic experience.

But neither the problem-solving nor the concrete language is distinctive of the aesthetic process. Problem-solving runs through a great deal of waking life, and concrete language characterizes not only the aesthetic emotion, but emotions in general. We have seen that what generally arouses and sustains sympathy, love and loyalty are concrete percepts, images, symbols and representative examples, and that the *distinctive* language of emotion is pictorial. If we are to make a division between the aesthetic and other emotions we must turn to other criteria, and especially to the phenomena of make-believe and double intentionality.

There appears to be always a double awareness. In representative arts, such as sculpture, painting, drama, the dance, one is aware of what is represented and of what is presented. If what is presented—a carved stone, for example, becomes *too much like* what is represented—a man, for example, the aesthetic emotion disappears. We suffer instead a momentary illusion, as if we were suddenly confronted with one of Madame Toussant's wax figures and mistook it for the real thing. And if the presented object is *not enough like* what is to be represented then, too, there is no aesthetic experience, for nothing is represented, i.e., nothing is concretely or pictorially represented. We are aware only of a more or less meaningless stone, or a road with trees which one might travel, or a pattern of motion, color or sound one cannot understand. And there would be no frame or brush strokes or other evidence of workmanship to guide the aesthetic intentionality.

A great deal has been written on "psychic distance,"

and on the balance between imitation and distortion appropriate to the different arts and styles, and with regard to this question schools and critics often hold diverging views. Perhaps the best approach to the phenomenon of aesthetic balance is that of phenomenologists (105) who describe experience in terms of fulfillment and disappointment of expectation. The art form and style establish in advance a certain range of expectation and the general balance between fulfillment and disappointment of expectation. The range of expectation in a Scotch ballad is very different from that in a naturalistic novel in the style of Zola. Wild things can be anticipated in a Grimm fairy story, an "Arabian Nights" tale and in an Indian epic, but not the same wild things. The limits of the bizarre, as well as the realistic, must be understood in a general way, else the pleasing balance between fulfillment of intention and exciting surprise is not effected, and interest fags.

Each art form and style engenders expectations appropriate to it. Sculpture, for example, arouses expectations with regard to the invisible side, for the solidity is seen as presented, not as represented. Hence, Ruskin demanded that the back of a sculpture be completed, in all honesty, even though it stands against the wall and the back is never seen. And the third dimension, which is presented, is the dimension of reality. What is convex and tangible is already real. Thus certain subjects and life-like portrayals, such as blood gushing from a wound, which are appropriate to painting, are considered shocking or bad taste in sculpture, where a certain measure of reserve, distance and repose is usually demanded. In the same way, the realism of the novel, where the characters are only described, is very different from that of the stage where they are represented by actual persons.

What is called psychic distance is thus different for the various arts and styles, and so is the balance between

fulfillment and surprise. This balance varies but is always necessary. If expectations, as when a joke or story is being told, are too quickly and easily fulfilled, there is no surprise and nothing to intrigue, whereas if there is too little fulfillment there is no unity, no one thing which sustains our interest. The maintenance of interest is of course the condition *sine qua non.* From a behavioristic point of view the anomaly could be described as follows: An organism remains fixed to the spot staring at figures on a platform or listening intently to sounds without making any of the usual preparatory or consummatory responses. After an hour of undivided attention, the curtain goes down and the organism departs without having accomplished anything.

What is it that holds interest while preventing action? For one thing, the individual must be aware—though not focally aware—of foot-lights, perfected language, skillful timing and arrangement of characters on the stage, or of other evidence that a *production* is going on. Otherwise, his will not be an aesthetic emotion but another emotion, such as terror or pity, and he might even, as has happened, hurry to the stage to intervene. Moreover, the production must have an intentional unity-in-complexity, for it is known that attention shifts both from what is too simple and from what is too chaotic to organize. This is a necessity of attention in general. Aesthetic unity is, of course, something learned and much more complex; it is to be understood by a study of cultural history and biographies.

The play, Aristotle said, must have a beginning, a middle and an end. Nothing must come before the beginning nor after the end, and nothing must be introduced into the beginning or middle which is not necessary to the end. The expectations aroused in other words, must all be answered in some fashion, but progressively, the balance between fulfillment and disappointment moving forward as the plot unfolds. Although the modern novel, with its

emphasis on character development and motivation, cannot pretend to the rigid economy of the Greek tragedy, the progressive development of partial fulfillments toward certainty is maintained. In fact, something like Aristotle's requirement for tragedy seems to be necessary to account for the effect of art in general. Even the intent investigation of sculpture and architecture involves sequence and suspense.

The aesthetic balance belongs also to what is called non-representative art. As we look at an arabesque or listen to a fugue it is possible that nothing at all is represented, that the pattern is meaningless. There is nevertheless a plot. Expectations meet partial fulfillments which are also partial disappointments, and realizations—intentionally and in fact —progress toward fuller understanding. There is also a duality of intention. As we look at the arabesque or listen to the fugue, we are aware of the presented patterns, but we are also aware, at least marginally, of how different they are from the patterns found in nature, and of how they were contrived in accordance with traditions, and with the intentions of the artist. If this duality breaks down, as we have argued, there is no aesthetic emotion.

If art, however, is always a production, what becomes of the aesthetics of nature—the beauty of sunsets, landscapes and women? It is our opinion that Oscar Wilde was probably right when he said that the beauty of nature is first excogitated by the artist and embodied in paintings and poems. When people later found beauty in nature, it was only by seeing it as a painting or a poem. What pleases us as a likeness or representation of nature later becomes a perceptual interpretation, a new way of looking at nature. Thus children delight in pictures of nature long before they appear to respond to nature itself. The beauty of nature, it is often said, was not conclusively discovered till the nature poets at the end of the eighteenth century. If this view is correct, the artist, the humble artisan and the artist in all

of us, are not only responsible for art products, but also for much of the perceptual appeal of nature.

The emotion of sacredness, like the aesthetic emotion, is a product of social evolution. Sacredness, first attributed to extranatural objects and agencies, was only later extended to common life and aspirations, viewed naturalistically. There are several advantages in defining religion as the emotion of sacredness. No other term, as Marret used to say, covers all religious phenomena. Moreover, sacredness, like beauty, is a non-competitive good which can be shared and multiplied without loss to anyone. This conception of religion thus cuts across jealous ideational differences, emphasizing the inestimable worth of human life wherever it may show itself, and however it may be celebrated.

The theme of this book is an old one with a modern approach. It was important for Plato, the Stoics, Pascal, Rousseau and Schopenhauer, and it certainly cannot be ignored by us today. If a sharp division is made between emotions and reason, one side of life seems to be given over to caprice and irresponsibility. Convinced in advance that emotions are blind or exempt from rational controls, people are probably more inclined to put up with stupidity in themselves, and in others, and more disposed, when patience fails, to resort to trickery and force. On the other hand, the belief that emotions have a reason, excuse or rationale, and that they arise and can be altered in the learning process, should encourage patient discussion of differences.

It was Plato's view that men do the wrong things only because they do not *know* the right. But to know what is right one has to examine not only the public, often conventionalized, facts and reasons, but also one's own more private desires and passions, and the reasons, good or bad,

embedded in them. Criticism of one's emotions is the beginning of an understanding of others. It is the way to real friendship and to complex and continuing aesthetic enjoyment. "Know thyself" is also a teaching of Plato and other great rationalists. Rationalism itself, as Hegel and Whitehead saw, becomes a passion which always stands in need of added comprehension and depth.

One excuse for the unfortunate divorce of emotions and reason is that some emotions, such as envy and malice, are obviously irrational, so much so that no one wants to admit that he experiences them. And of course any emotion can go wrong on occasion. It is understandable, therefore, that writers through the centuries should have come to counterpose *all* emotions to reason, but the zeal and pride of their partisanship might suggest that *some* are defensible. The issue was probably never a purely verbal one. When reason is separated from the emotions, the former is unmotivated and the latter, blind. Emotions are taken to be non-rational, unavoidably so, yet they are admittedly the motives of much of our conduct, and it follows at once that much of our conduct is unavoidably non-rational. Will not such a view discourage the search for the right plans and policies, and introduce a dangerous split between theory and practice? According to John Dewey, as we have seen, it "is probably one of the chief sources of the maladjustments and unendurable strains from which the world is suffering. . . ."

For reasons suggested above and in the main text, the relation between emotions and cognitions appears to be an important issue, having consequences for ethics, aesthetics and various fields of psychology. It deserves, and doubtless will receive, a more thorough treatment than we were able to give in a short book, for the opponents of dualism, especially among psychologists, are developing a functional theory of the emotions, and they are evidently destined to win the argument.

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By

V. J. McGILL

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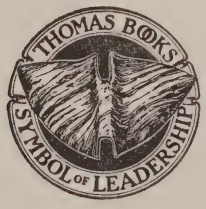

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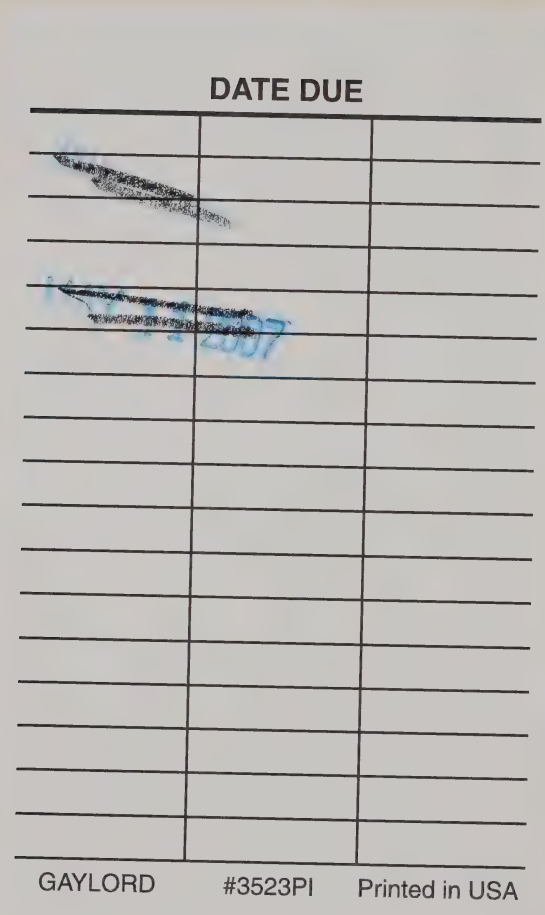

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